ademy of Dental Materials Meeting
Annual meeting
The Drake Hotel, Chicago, IL, USA
ADM 2016 OCT 12-15
ACADEMY OF DENTAL MATERIALS
Annual Meeting

CHICAGO
Fire of 1871
A Proud Story of Rebuilding


CHICAGO
Fire of
of Rebu
J. Robert


Interfaces and Interphases
in Tooth Biominerals
Derk Joester
Materials Science and Engineering
Northwestern University
Chicago Academy of Dental Materials
Oct 13, 2016


Dentin: A Close-up and Fresh Look
S
Sound dentin
Sound dentin
B
Subsurface mineral
D
Demin. dentin


PDL-Entheses: Regenerating Zones in the Context of Function
Sunita P. Ho, Ph.D.
Division of Biomaterials and Bioengineering, Department of Preventive and Restorative Dental Sciences, School of Dentistry, UCSF, San Francisco, CA
Students: Arvin Pal, 2nd yr DDS; Kurylo M, DDS; Hurng J, DDS; Jang A DDS, PhD; Jeremy L , DDS, PhD
Scholars: Ling Chen, PhD; Misun Kang, PhD; Feifei Yang, PhD


M 2016
OCT
15
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ting


Biocompatibility of Biomaterials
• Why care?
– Systemic effects
Hg - BPA


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2016


ADM Fellow 2016
Jeffrey


Mutlu Ozcan and Alvaro


"A Taste of Chicago" Gala Dinner
Date: Friday, October 14th, 2016;
Time: 7-10pm
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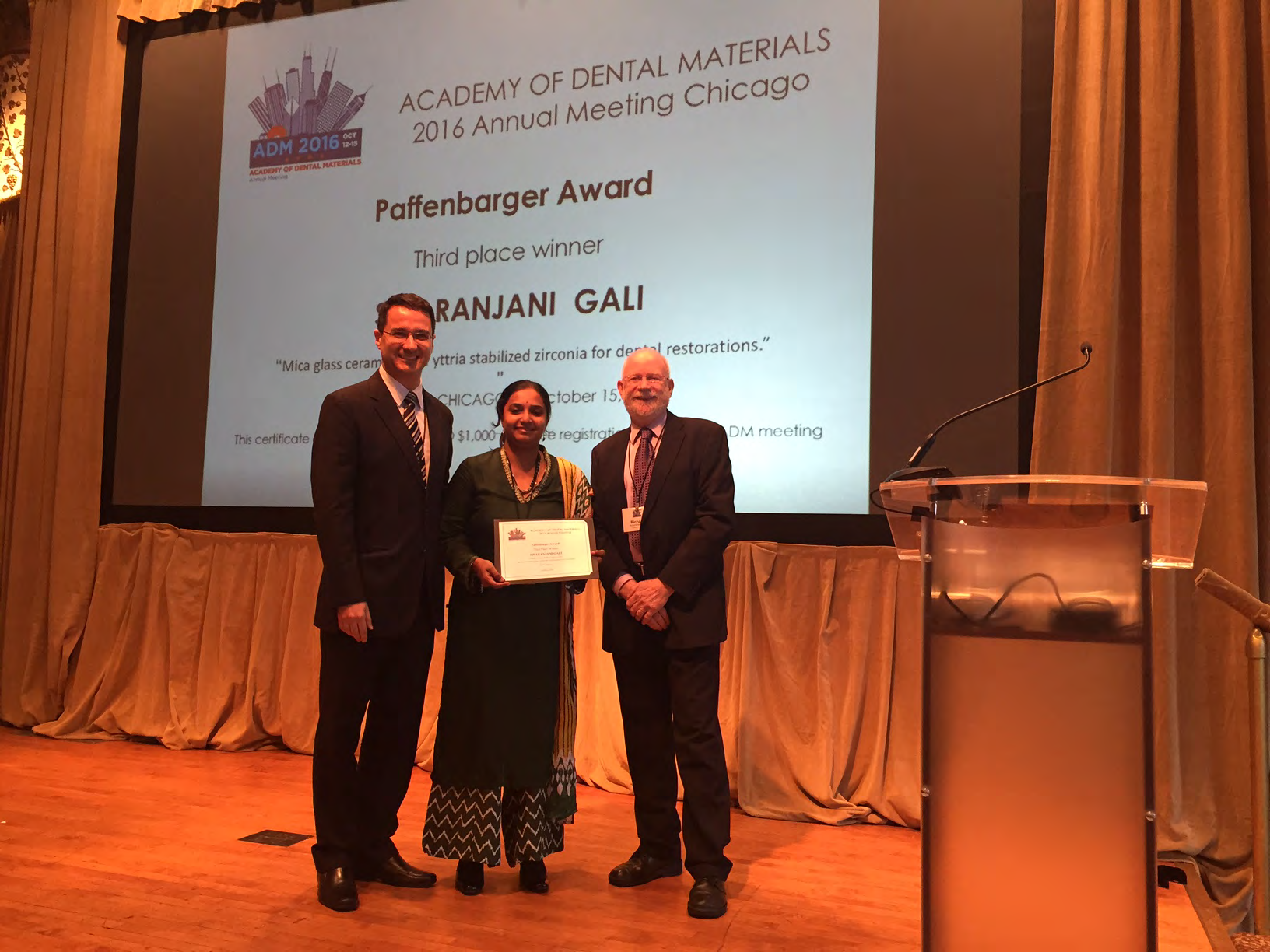

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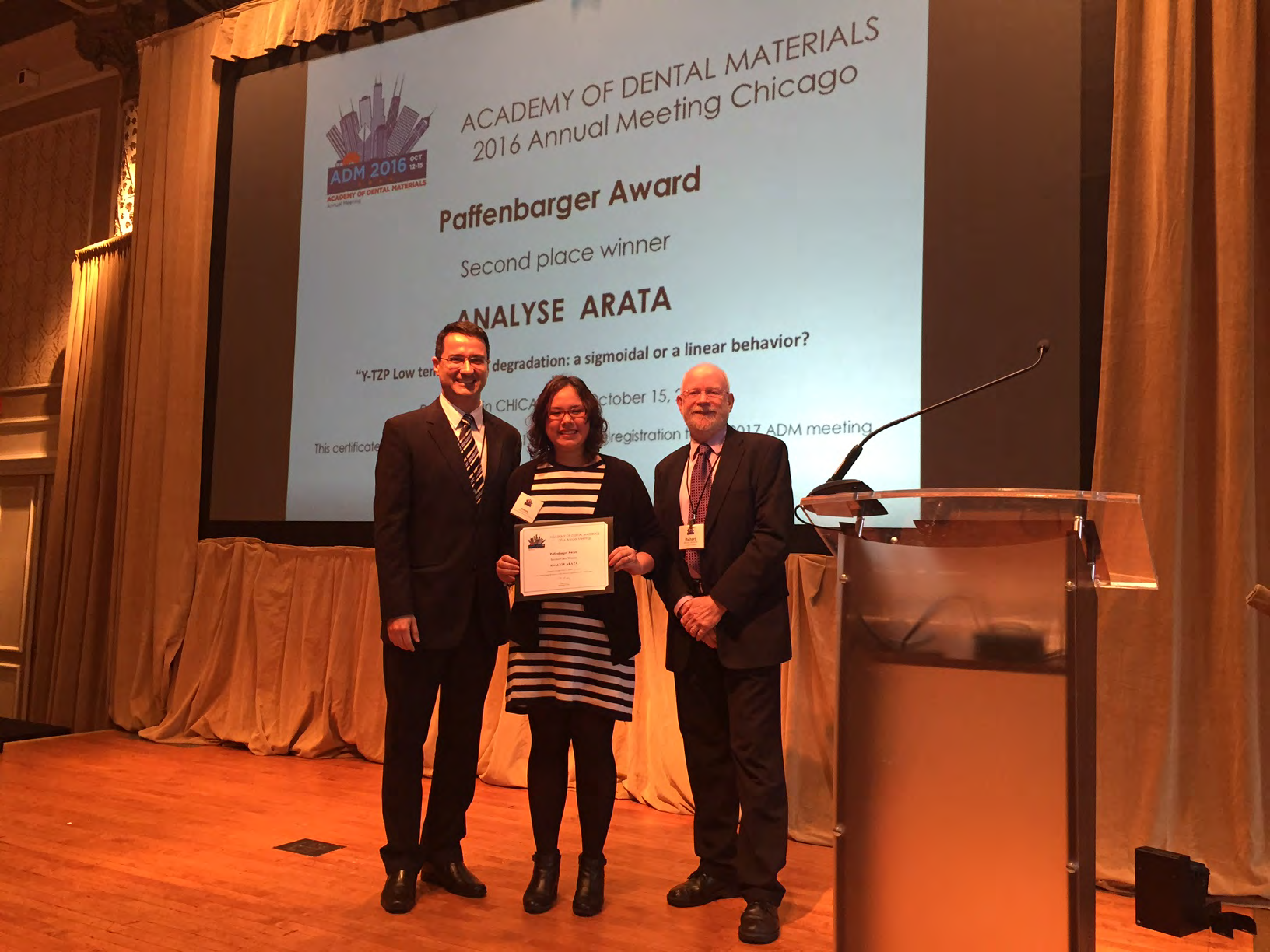
RANJANI GALI
yttria stabilized zirconia for
restorations."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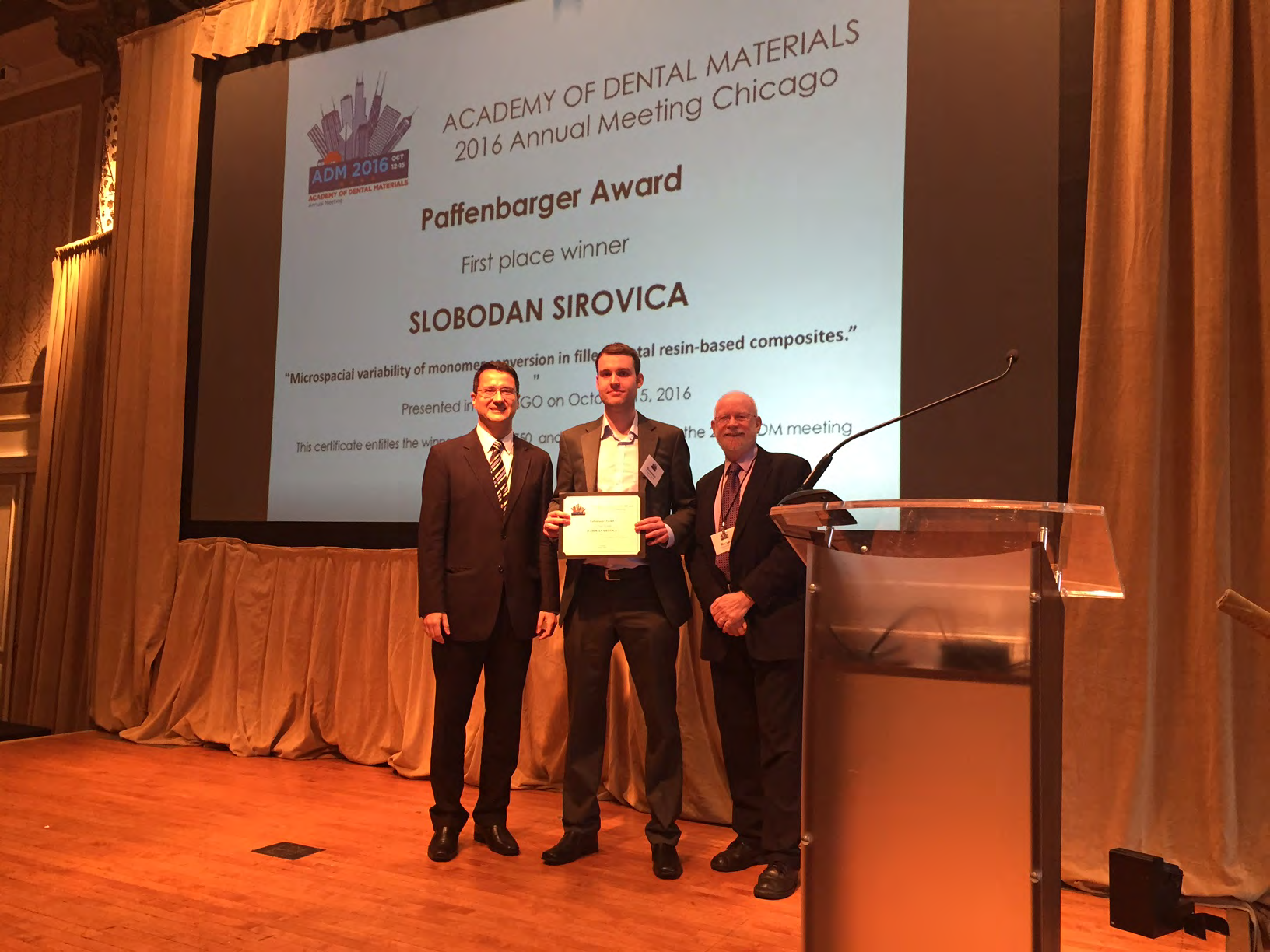
Second place winner
ANALYSE ARATA
degradation: a sigmoidal or a linear behavior?
ADM meeting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Strength and Contrast Ratio comparison for translucent
#89
89


COMPOUNDS INCORPORATION THAT MODIFY STREPTOCOCCUS MUTANS VIRULENCE IN RESTORATIVE MATERIALS
Introduction
Materials and Methods
Results
Conclusion:
P2
Phase Transformation Behavior
Linear Evidence
Conclusions
P3
P4
P5

EXIT
EXIT
Repaired anterior composite restorations: up to 15 years clinical survival
Purpose
Methods
Results
Conclusion
54


Color stability of novel bulk-fill composites
C. Barutcigil*1, K. Barutcigil2, M.M. Özarslan2, A. Dündar1
PURPOSE
MATERIALS AND METHODS
RESULTS
CONCLUSION
57


UCL
62
Introduction
Results
Materials & methods
Conclusion and perspectives
62

Influence of Er:YAG Laser Cavity Preparation on Micromorphology and Adhesion
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FACULDADE DE ODONTOLOGIA
UNIVERSIDADE DE SÃO PAULO
INTRODUCTION
Er:YAG laser with variable pulse duration can prepare cavities by means of cold ablation. Analyzing the micromorphological features of irradiated dentin tissue is key to predict bond strength to composites.
OBJECTIVE
This study evaluated the influence of different pulse duration on adhesive interface morphology and microtensile bond strength (μTBS) of a composite resin, when cavity preparation is performed by Er:YAG laser.
METHODOLOGY
Microtensile Bond Strength
42 human molars
Groups
Cavity Preparation Method
G1
Control - No laser treatment
G2
200mJ-20Hz-50μs
G3
200mJ-20Hz-300μs
Er:YAG laser Fidelis III – Fotona
5mm
Confocal and Second Harmonic Generation
Confocal - 800ηm
SGH - 380ηm
RESULTS
Confocal and Second Harmonic Generation (SGH)
G1
G2
G3
Microtensile Bond StrengtH μTBS
Groups
Average MPa
Stand. Dev
CI 95%
G1
51,14a
7.16
44.22 – 55.07
G2
29.17b
7.09
25.25- 33.10
G3
23.53b
4.5
19.60-27.45
Statistical test: ANOVA and Tukey´s post-hoc test (α=0.05)
✓G1 showed higher microtensile bond strength values (p=0.00) when compared to G2 and G3 (irradiated groups).
✓No statistical difference was detected when laser groups G2 and G3 (p>0.05) were compared.
60
50
40
30
20
G3
G2
G1
CONCLUSION
SUPPORT FAPESP
15/12651-1 and 15/13671-1
11

Effect of Er:YAG Laser pulse width on interface micromorphology and bond strength to dentin
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FACULDADE DE ODONTOLOGIA
UNIVERSIDADE DE SÃO PAULO
INTRODUCTION
Er:YAG laser with controlled pulse duration can interact with dentin by means of cold ablation. Analyzing the micromorphological features of irradiated dentin is key to predict bond strength to composites.
OBJECTIVE
This study investigated the effect of Er:YAG laser pulse width on collagen micromorphology and on bond strength of a composite resin.
METHODOLOGY
Microtensile Bond Strength
Er:YAG laser Fidelis III - Fotona λ=2.94μm
48 human molars
n=3
Groups
Surface Pretreatment
G1
Control - No laser treatment
G2
80mJ-2Hz-50μs
G3
80mJ-2Hz-300μs
G4
80mJ-2Hz-600μs
Confocal and Second Harmonic Generation
12 human molars
n=3
Confocal - 800ηm
SGH - 380ηm
RESULTS
Confocal and Second Harmonic Generation (SGH)
G1
Adhesive interface created by universal one step self-etching adhesive system U on dentin surface. A thick and uniform hybrid layer was observed (A-C). Resin tags without funnel-shaped morphology and with poor resin infiltration around were onbserved (asterisk , C). Organic matrix was intact (OM). AL- adhesive layer; HL- hybrid layer; RT- resin tag, d- dentin.
G2
Adhesive interface created by universal one step self-etching adhesive system on dentin surface irradiated by Er:YAG laser with 200mJ/20Hz/50μs. A non-uniform hybrid layer was observed (A-C). Long resin tags were observed in all regions with poor resin infiltration (asterisk, B-C) although they did not exhibit the funnel-shaped appearence. Alteration of organic matrix below the irradiated surface (OM). AL- adhesive layer; HL- hybrid layer; RT- resin tag; d- dentin; Co- composite; Arrow- laser pulse shape.
G3
Adhesive interface created by universal one step self-etching adhesive system on dentin surface irradiated by Er:YAG laser with 200mJ/20Hz/300μs. A thin and non-uniform hybrid layer was observed (A-C). Scarse resin tags were seen without funnel-shaped morphology and with poor resin infiltration (asterisk, A-C). Alteration of organic matrix below the irradiated surface (OM) (B-C). AL- adhesive layer; HL- hybrid layer; RT- resin tag, d- dentin; Co- composite; Arrow- laser pulse shape.
G4
Adhesive interface created by universal one step self-etching adhesive system on dentin surface irradiated by Er:YAG laser with 200mJ/20Hz/50μs. An irregular hybrid layer was observed (A-C). Resin tags without funnel-shaped were observed with poor resin infiltration (asterisk, C) into peritubular dentin. Alteration of organic matrix below the irradiated surface (OM). AL- adhesive layer; HL- hybrid layer; RT- resin tag; d- dentin; Co- composite; Arrow- laser pulse shape.
Microtensile Bond Strength μSBS
Groups | Average MPa | Stand. Dev | CI 95%
G1 | 26,17a | 3,78 | 24,44 - 27,89
G2 | 22,142b | 2.86 | 20,41 – 23,86
G3 | 21,24b | 3.03 | 19,52 – 23,86
G4 | 20.61b | 1,85 | 18,89 – 22,34
Statistical test: ANOVA and Tukey´s post-hoc test (α=0.05)
✓G1 showed higher microshear bond strength values (p=0.00) when compared to G2, G3 and G4 (irradiated groups).
✓No statistical difference was detected when laser groups G2, G3 and G4 (p>0.05) were compared.
CONCLUSION
Er:YAG laser pretreatment decreased shear bond strength, although hybrid layer and resin tags were formed in all experimental groups. Collagen fibers disruption and organic matrix alteration were only observed in irradiated groups.
SUPPORT FAPESP
15/12651-1 and 15/13571-1
12


Ammonium Based Methacrylate into Dental
Adhesive for Bonding Metal Brackets
13
Methods
Results
113


Background
Objectives
Materials and Methods


MECHANICAL PROPERTIES AND ION RE
COMPOSITES CONTAINING CALCIUM PH
Background
Results
Objectives
Materials and Methods
25

#25
MECHANICAL PROPERTIES AND ION RELEASE OF COMPOSITES CONTAINING CALCIUM PHOSPHATE
MDS CHIARI, MC RODRIGUES, Y ALANIA, LC NATALE, RR BRAGA *
Department of Biomaterials and Oral Biology , University of São Paulo, São Paulo, Brazil
Background
The incorporation of calcium orthophosphate particles in resin-based materials has been investigated as a way to provide these materials with remineralizing capabilities. However, the development of ion-releasing restorative composites mechanically suitable for use in stress bearing areas is a challenging endeavor, due to the lack of a chemical bond between the calcium phosphate particles and the resin phase. In order to increase the chemical interaction of CaP nanoparticles and the composite matrix, dicalcium phosphate dihydrate (DCPD) nanoparticles functionalized with triethylene glycol dimethacrylate (TEGDMA) were recently synthesized (Rodrigues et al., 2014).
Objectives
The purpose of this study was to evaluate the effect of replacing glass filler particles with dicalcium phosphate dihydrate nanoparticles (DCPD), either non-functionalized or functionalized with different TEDGMA contents, on the biaxial flexure strength (BFS), elastic modulus (E) and ion release of experimental composites.
Materials and Methods
Results
Conclusions
Financial support:
25

unesp
LIGHT EFFECTS OVER THE COLOR OF ORMOCER X METHACRYLATE COMPOSITES
C.R.G. Torres*, D.C.B. Dantas, I.F. Mathias, T.M.F. Caneppele, A.B. Borges
São Paulo State University - UNESP, São José dos Campos School of Dentistry, São José dos Campos - São Paulo, Brazil
PURPOSE
METHODS AND MATERIALS
RESULTS
Table 1 – Means and standard deviation for all groups and results of Tukey test.
GROUPS
Mean
SD
ENAMEL
3.70
1.18
ADMIRA FUSION
5.26
0.65
TPH3
5.89
1.30
GRANDIOSO
6.11
0.82
Z350
14.18
1.15
CONCLUSIONS
24

HIF1A Overexpression Using Protein Transduction Domain Induces An
in HUVEC
INTRODUCTION
RESULTS
qPCR
Tube formation
Matrigel plug assay
HIF1A
Tube Length
21
Immediate and long-term dentin-composite bond-strength:
in-vivo and in-vitro conditions
César R. Pucci¹, Heleine M. C. Rego¹, Thais da Silva Alves¹, Eduardo Bresciani¹, Li-na Niu² Franklin R. Tay³
1 - ICT UNESP, Univ. Estadual Paulista, Brazil, 2 - State Key Laboratory of Military Stomatology, the
Fourth Military Medical University, Xi'An, P. R. China; 3 - Georgia Regents University, Augusta, GA, USA
#22
Objective
To evaluate dentin microtensile bond strength (MTBs) of class I resin composite restorations performed in vivo (time) and under in vitro conditions (simulated pulpal pressure - SPP, aging protocols and storage time).
Methods
Figure 1: Division of groups according to storage and aging protocol
Results
Bond strength data (Means ±standard deviations; in MPa) are presented in Table 1. MTB decreased after 6 months under clinical conditions. In vitro tests indicated that MTB was significantly affected by all variables examined; MTB decreased with the use of SPP, in presence of water and after 6-month aging. For in vitro and in vivo comparison, the 24 hours results revealed lower MTB for SSP. No differences were detected at 6 months.
Table I - Mean and standard deviation of tensile bond strength (in MPa)
Evaluated Period
Conditions
In vivo
In vitro
Simulated Pulpal Pressure
Aging
MTB
G1-24 hours
G2-6 months
Without SPP
With SPP
Conclusion
The use of SPP adversely affected in vitro bonding a
24 h, while results from all in vitro testing protoco
were similar to in vivo conditions at 6 months.
22

Faculty of Dentistry
NUS
NUHS
substrate to enhance neurogenic
ion of dental pulp stem cells
N. Dubey, JC Viana Gomes
pulp stem cells (DPSC).
Miguel Angel
Alessandro


Graphene as a substrate to enhance
differentation of dental pulp stem
Objective
Methods
Results

Photo-Fenton: An improvement in dental bleaching.
Background
Materials and Method (cont.)
Results and Discussion
Results and Discussion (cont.)
Conclusion
118


118 - Biomimetic Analogs/Bioactive Phosphates based Adhesives
Background
Objectives
Materials and Method


Abfraction versus Erosion: Impact of Type Lesion
1-Year Restorative Performance
Purpose
Resin-modified glass-ionomer cement (RMGIC) is recommended for the treatment of non-carious cervical lesions (NCCL) irrespective to their etiological factor. However, as these factors frequently persist even after restorative treatment, this study aimed to evaluate the restorative performance predominantly caused by abfraction or erosion.
Material and Methods
Clinical Evaluation
Statistical analysis
Data was collected and statistically assessed with Mann-Whitney and Friedman/Tukey (p<0.05)
Results
109
Amanda
David
Univers bonding system associated with ...
Thermography analysis during laser ...

Bisphenol A and phthalates in paediatric dental patients and in-vitro sealant weight variability
PLYMOUTH UNIVERSITY PENINSULA
Introduction
Methods 2
Results
Discussion
110
111


EXIT
141


UIC
Effect of Pine Bark Proanthocyanidins on Dentin and Resin-Dentin Interfaces
PVF Braz1,2, AA Leme-Kraus2, B Aydin2, JW Nam3, RS Phansalkar3, SN Chen,3 GF Pauli3, AK Bedran-Russo2
ABSTRACT
INTRODUCTION
HYPOTHESIS/OBJECTIVE
METHODS
Apparent Modulus of Elasticity Assay
Resin-Dentin Microtensile Bond Strength Assay
RESULTS
CONCLUSION
REFERENCES
FUNDING SOURCE
139
Paulo


OBJECTIVE
MATERIALS AND METHODS
PREPARATION OF SPECIMENS


FAU
P138


UFU
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UNIVERSITY OF ILLINOIS AT CHICAGO
Influence of Acid Saliva on Wear of Human Dentin
P. V. Soares[1], I. V. Marques[1], M. I. Alfaro[1], A.C. Machado, M. T. Mathew[2]
[2] Department of Restorative Dentistry, College of Dentistry, UIC, Chicago, IL, USA
[3] Department of Orthopedic Surgery Rush University Medical Center, Chicago, IL, USA
#144
ABSTRACT
INTRODUCTION
HYPOTHESIS/OBJECTIVE
METHODS
RESULTS
CONCLUSION
FINANCIAL SUPPORT SOURCE
PURPOSE
MATERIALS AND METHODS


Do zirconia translucency affect bond strength
144
N. Scotti*1, E. Manzon1, A. Comba2, M. Alovisi1
ADM 2016
ACADEMY OF DENTAL MATERIALS
PURPOSE
To evaluate if yttria-stabilized tetragonal zirconia polycristals of different translucency and thickness affect the bond strength of two resin-based cements irradiated with different curing protocols. The null hypothesis was that the bond strength to Y-TZP was not influenced by cement, thickness, and energy density during light-curing.
MATERIALS AND METHODS
Statistical significance was set for p<0,05
Acid Saliva on Wear of Human
INTRODUCTION
HYPOTHESIS/OBJECTIVE
CONCLUSION
FINANCIAL SUPPORT SOURCE
Jack
Jack Ferracane


UNITAU
unesp
Fatigue limit of monolithic zircônia FDP: damage and glass infiltration
M Amaral*1, R Rocha2, RM Melo2, GK Pereira3, T Campos4, Y Zhang5, LF Valandro3, MA Bottino2
(1University of Taubaté, 2Univ. Estadual Paulista, 3University of Santa Maria, 4Aeronautic Technologie Institute/BR, 5New yok University/USA)
marinamaral_85@yahoo.com.br
OBJECTIVE
METHODS
Stair-case Profiles
Applied Load (N)
Samples' Order
RESULTS
CONCLUSION
Fatigue limit of FDP in monolithic zirconia was not affected by abrasion with diamond bur and were enhanced by glass infiltration.
143
106
Marina


MARQUETTE UNIVERSITY
School of Dentistry
Calcium Phosphate Cement Containing Strontium for Increasing Bone Formation
Reza Masaeli 1, Tahaereh S. Jafarzadeh Kashi 1, Wiley Yao 2*, Kimia Khoshroo 2, Mohammadreza Tahriri 2, Lobat Tayebi 2
Abstract
Introduction
Materials & Methods
Preparation of CPC
To prepare calcium phosphate cement powder in this research, one gram of tetracalcium phosphate (Ca4P2O9, TTCP)- with a controlled mean particle size of 10 μm was synthesized following the method from the reaction of dicalcium phosphate dihydrate (CaHPO4.2H2O) and calcium carbonate (CaCO3)- was mixed with one gram of dicalcium phosphate dehydrate (CaHPO4.2H2O, DCPD; Merck Co.) and then 1.205 ml (P/L=0.83), 0.8 ml (P/L=1.25) and 0.645 ml (P/L=1.55) of disodium hydrogen phosphate (Na2HPO4; Merck Co.) was added to the mixture respectively in order to set the cement. Finally, 3 wt. % of synthesized nano-strontium substituted hydroxyapatite (Sr-HA) (10% of calcium in hydroxyapatite was replaced with strontium) was added respectively to the prepared cement. The calium phosphate cement powder was mechanically ground to the mean particle size distribution of 3 mm, vacuum-packed and g-ray-sterilized (20 kGy).
Results
Conclusions
In conclusion: XRD analysis demonstrated that increasing the ratio of Powder/Liquid (P/L) increased the crystallinity of the prepared cement. The substitution of strontium instead of calcium in CPC can also alter the crystal structure, including some structural disorder. However, in the CPC with no strontium hydroxyapatite (Sr-HA), no significant increase in crystallinity was observed. SEM observation showed that CPC with increasing P/L ratio, the formation of hydroxyapatite crystals arising from the interaction of solid and liquid phase of cement was reduced. Also, incorporation of Sr within Ca site culminates in a considerable increase in crystallinity of hydroxyapatite. The CPC with 3 wt % Sr-HA bone regeneration group has been shown to function to enhance the MTT assay and ALP activity in vitro and bone regeneration in vivo. Ultimately, CPC with proper strontium additives can efficiently increase the rate of bone regeneration.
References
Acknowledgment
The authors wish to thank Delta Dental for their generous financial support.
103


EXIT

dentin surface properties
OBJECTIVE
MATERIALS AND METHODS
PREPARATION OF SPECIMENS
DENTIN REMINERALIZATION
ASSESSEMENT OF WETTABILITY
METHODS AND MATERIALS
Contact Angle
Leonardo Eloy
Adriana
135


Luiz
Andre


Jose
Luana


EXIT
EXIT
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FAPESP
Marginal and Internal Space of Metallic C
F.F. Piras1, J.R. Berro-Filho1, F. Ferruzzi2, B.M. Ferrairo1, V. Mos
Introduction and Purpose
Marginal and internal fit of prosthetic crowns are necessary characteristics to a successful rehabilitating treatment. It is expected that a CAD/CAM system provides an adaptation with either equivalent or superior fit when compared to those produced by the conventional technique. Yet, many studies in the area have shown varied results. Based on that, the aim of this study was to evaluate the marginal fit and internal space of cobalt-chromium copings produced by conventional casting (n=10) and laser sintering (n=10).
Materials and Methods
1
2
3
4
5
6
7
8
9
10
1- die model
4 - replica of the cementing agent's space
Materials and Methods
Conclusion
Thus, it is possible to conclude that
copings showed a comparable intern
region was considered, the conventio


UBC
Curing effectiveness of multiple resin composites with LED curing units
Introduction
Purpose
Materials and Methods
Results
Summary
Conclusions
147
sphosphonate, Zoledronate, and Biomimetic Hydroxyapatite
Material & Methods
Conclusions
Future Studies
Results
FTIR analysis
References
Acknowledgements
CNPq
148


UBC
Introduction
Purpose
Interaction between a Bisphosphonate,
P.V. ROCHA
MATERIAL
Hydroxyapatite synthesis
XR-D
FTIR
RESULTS
XR-D analysis


EFFECT OF DOXYCYCLINE INCORPORATED WITHIN DENTAL ADHESIVES ON TOOTH-RESTORATION INTERFACE
MATERIAL AND METHODS
Single Bond 2 - Control
EXP1 - Doxycycline 0,05%
EXP2 - Doxycycline 0,1%
EXP3 - Doxycycline 0,5%
EXP4 - Doxycycline 1%
Adhesive step
Restorative step
RESULTS
Nanohardness of Adhesive Layer
Nanohardness of Hybrid Layer
Young's Modulus of Hybrid Layer
Hardness of Dentin
Young's Modulus of Dentin
CONCLUSIONS
Control group showed higher values for adhesive layer; the experimental groups showed no statistical difference between them. There were no difference between groups for Young's Modulus values.
EXP4 showed lower value compared to Control group and EXP2 for the Hybrid Layer's nanohardness values. However, Control group did not show difference among EXP1, EXP2 and EXP3. Control group showed the lower value among all the groups for Young's Modulus of Hybrid Layer. EXP2 showed higher value among Control group and EXP4. However, EXP2 did not show difference among EXP1 and EXP3.
Hardness and Young's Modulus of Dentin did not show difference between the groups. Therefore, confirm that the substrate differences and mineralization levels did not change the properties of the hybrid layer in a particular group.

Polymerization Stress, Gap Formation and Bacterial Infiltration in Bulk-Fill Restorations
Results
Methods
Conclusion
CONCLUSIONS
173
174


Role of proteoglycans on dentin biochemical and bio
UnB
Introduction
Material and Methods
1. PGs/GAGs removal
2. PGs/GAGs quantification
3. PGs/GAGs-depleted ECM biodegradability
4. PGs/GAGs removal by TEM
5. Ultimate tensile strength (UTS) and Energy to fracture of PGs/GAGs-depleted dentin
Objective
To determine the roles of PGs/GAGs on the biomechanical properties and biochemical stability of bulk demineralized dentin matrices by selectively removing these biomacromolecules.
Conclusion

Mechanical, Physicochemical and Biological Properties of Experimental EGCG Based Adhesive
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INTRODUCTION
MATERIAL AND METHODS
I - Model Adhesive Preparation
II - Microtensile Bond Strength (μTBS)
III - Flexural strength (FS)
IV - Compressive Strength (CS)
V - Water sorption and solubility
VI - Polymerization volume shrinkage
RESULTS
169


The Effect of Hydrofluoric Acid
Etching Periods on the
Bonding Strength to
Ceramic
Puppin-Rontani J*1, Sundfeld D1, Costa AR1, Correr AB1, Puppin-Rontani RM
Borges GA3, Sinhoreti MAC1, Correr-
Sobrinho L1
1Dental Materials - FOP/UNICAMP; 2Pediatric Dentistry - FOP/UNICAMP; 3Dental Materials - University of Uberaba
UNICAMP
Propose
concentrations associated with varied etching
on the microshear bond strength (μSBS) and
morphology (SEM analysis) of EMX luted
resin cement.
Materials and Methods
N=250
n=10
Polishing - #600, #1200, #2000
2.5% 5% 7.5% 10%
40 s, 60 s, 120 s and 20+20 s
spray, air dried for 60s
Silanization
Silane coupling agent - 60 s -RelyX ceramic primer
Air heat drying for 60 seconds
Bonding
Unfilled resin -Scotchbond MultiPurpose; 3M ESPE
Light-curing 20 s (VALO Cordless)
μSBS testing procedures
Resin cement Variolink II
250 g/120 s
μSBS Test
SEM analysis
HF - 1%, 2.5%, 5%, 7.5% and 10%
n=1
Etching time - 20 s, 40 s, 60 s, 120 s and 20+20 s
Statistical analysis
Data were submitted to two-way ANOVA and Tukey tests (p < 5%).
Results
Means of μSBS (MPa) (Standard Deviations) for all groups
Etching time
HF (%) 20 s 40 s 60 s 120 s 20 + 20 s
1% 10.2 (2.1) cC 16.2 (1.1) cB 14.1 (1.9) cBC 22.0 (1.1) bA 16.3 (1.2) cB
2.5% 16.8 (2.6) bB 21.8 (2.9) bA 24.2 (1.2) bA 25.9 (1.3) bA 22.0 (1.8) bA
5% 27.8 (1.8) aA 28.4 (1.2) aA 30.1 (2.2) aA 30.9 (1.4) aA 28.9 (1.7) aA
7.5% 28.1 (1.6) aB 29.9 (1.3) aAB 32.3 (1.8) aAB 33.0 (1.6) aA 30.2 (2.2) aAB
10% 31.7 (1.3) aA 31.0 (1.4) aA 32.9 (1.4) aA 33.8 (1.5) aA 30.7 (1.3) aA
Means followed by different lowercase letters in each column and upper capital letters in each line differ statistically by Tukey's test p<0.05.
SEM images of surface morphology of EMX etched with HF for 20 s
1% HF
2.5% HF
5% HF
Conclusion
The effect of HF
morphology of
dependent.


SCHOOL OF DENTISTRY
SUMMARY
METHODS
BACKGROUND

THE UNIVERSITY OF ILLINOIS AT CHICAGO DENTISTRY
UIC
Siddiqui O, Leme AA, Bedran-Russo A
University of Illinois at Chicago, Department of Restorative Dentistry, College of Dentistry, Chicago, USA
INTRODUCTION
METHODS
RESULTS
CONCLUSION
ACKNOWLEDGEMENTS
NCPs Retained
NCPs Depleted
Tear Energy
LOW
HIGH


EXIT
EXIT
OHSU
3D Printed versus Conventionally Cured Experimental Dental Resins
Anthony Tahayeri, Ana Fugolin, Jack Ferracane, Carmem Pfeifer, Luiz E. Bertassoni
OREGON HEALTH & SCIENCE UNIVERSITY
Background
Material & Methods
Results
Conventional Curing Method
3 Point Bend Test
Degree of Conversion / Mapping
Mapping
Material & Methods
BisGMA/TEGDMA: Resin Formulation
Creation of Test Bars:
Results
Printed bar vs conventional bar
Optimizations of BisGMA/TEGDMA resin
3 Point Bend Test
Modulus (GPa)
Peak Stress (MPa)
Toughness (MPa)
Top Face
Side Face
Front Face
180
UCL
1. INTRODUCTION
2. MATERIALS & METHODS
3. RESULTS
RELATIVE VALUES
ABSOLUTE VALUES
4. CONCLUSION


Cecilia
165
Benjamin A.


Academy of Dental Materials (ADM) - Chicago 2016
ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS
BISPHENOL A (BPA) AND OTHER MONOMERS RELEASE FROM FOUR ORTHODONTIC ADHESIVES
Jean-Pierre ATTAL
Elisabeth DURSUN
INTRODUCTION
BPA employed to make:
Orthodontic adhesive resins
MATERIALS AND METHODS
RESULTS AND DISCUSSION
CONCLUSION
162
Elisabeth


Chamber Heating and Deformation
Introduction
Methods
Results
Objectives
Experimental design
Conclusions
Clinical Significance
185

FOUFU
185
Introduction
On deep cavities, the use of capping is used to prevent postoperative sensitivity. The more recently used capping materials had monomers in their composition that require light activation, which may result in shrinkage stress, temperature raise and their clinical consequences. Pulp temperature and deformation is critical and should not exceed the normal values supported by the pulp tissues and by the dentin/composite resin interface. Few studies have reported the effects of temperature rise and dentin deformation within the pulp chamber due to the curing reaction of the capping material.
Methods
N=10
Objectives
To analyze the effect of pulp-capping materials and composite resin light activation on strain and temperature development into the pulp and at the interface integrity at the pulpal floor/ pulp-capping materials in large molar class II cavities.
Experimental design
Andre


Piperonylic METHACRYLATE : NEW COINITIATOR copolymerizable with biocompatibility
G. Lima * 1, AG Moreira 1, G. Lowe 1, AO Ogliari 1, FA Ogliari 1, E. Piva 1
1- Faculty of Dentistry, Federal University of Pelotas Pelotas - Brazil
CDCBIO
The aim of this study was to synthesize a new molecule piperonylic methacrylate and to evaluate its performance as a copolymerizable alternative coinitiator in photopolymerizable dental bonding agents.
MATERIALS AND METHODS
Synthesis of piperonylic methacrylate
Groups evaluated
Polimerization Kinetics
FTIR Spectroscopy
Bond strength test and failure analysis
RESULTS AND DISCUSSION
Nuclear Magnetic Resonance Analysis
Polymerization Kinetics
Statistical analysis
CONCLUSION
187
Giana
MMPs activity
Purpose
Materials and Methods
188


ium chloride on dentin μTBS and MMPs activity
Comba A1, Maravic T1, Checchi V2, Cadenaro M2, Breschi L1
ty of Bologna, Bologna, Italy; 2 University of Trieste, Trieste Italy
Purpose
Materials and Methods
MEAN
SD
SBAC ER
38,11
±13,49
SBAC SE
36,94
±19,11
46,19
±16,28
42,61
±17,85
188
contralinical study


EXIT
Influence of benzalkonium chloride on dentin μTBS
UNIVERSITY OF UMEÅ, SWEDEN
DEPARTMENT OF ODONTOLOGY
Posterior bulk-filled resin composite res
controlled clinical study
189


UCL
fnrs
DRI
Introduction
Materials & Methods
Julian
Slobodan
Slobodan Sirovica
Aston University

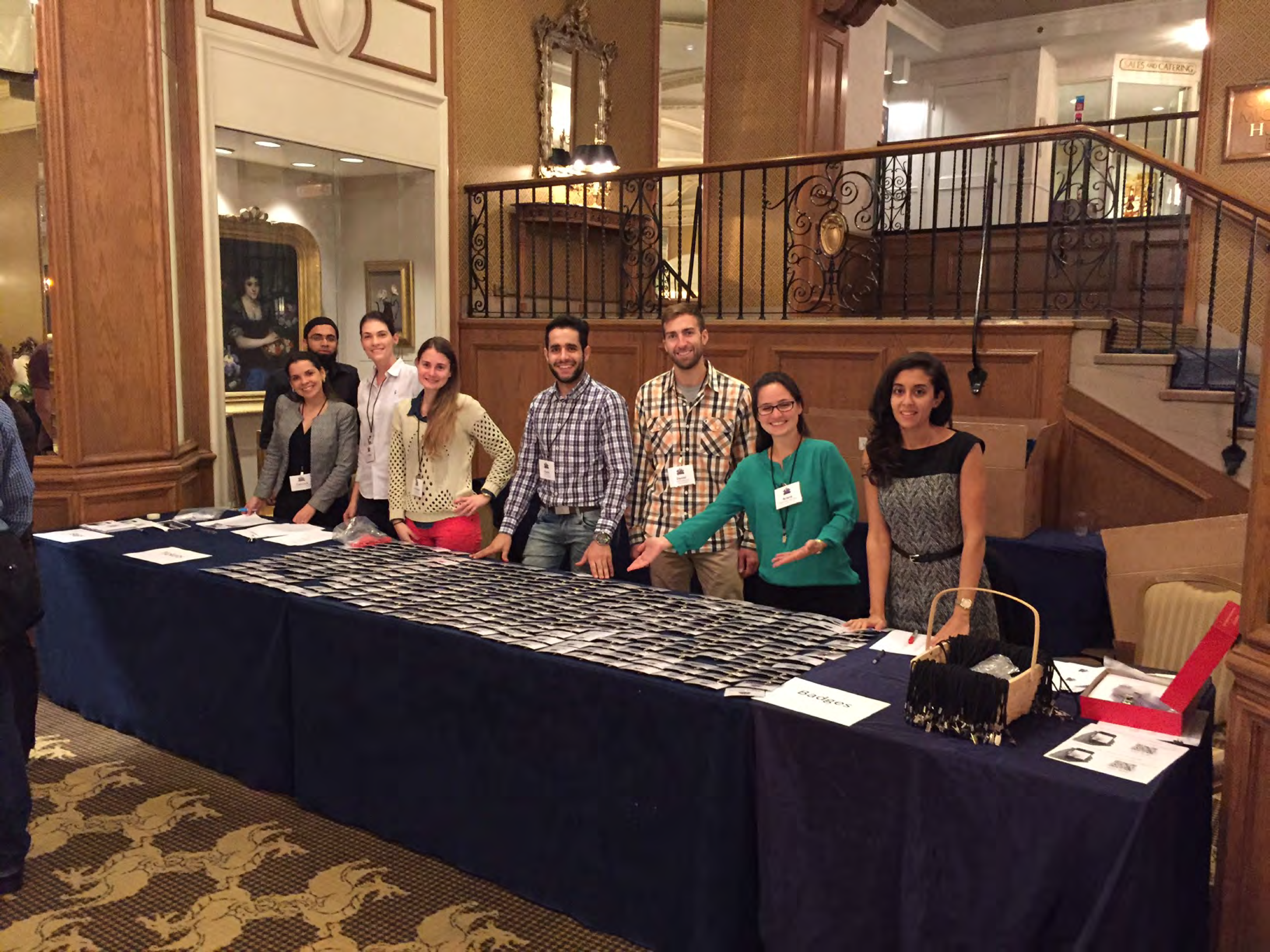
Longitudinal Clinical Study: 3 In office Bleaching Protocols; One Year Follow up
Paulo Eduardo Capel Cardoso; Bruno Antunes Lopes; Helena Burlamaqui Porcelli; Flavio Umeda Gentil
194
Background
Longitudinal clinical studies, wich follow patient over a long period of time are not very common in the dental literature, especially when associated with large samples.
Objectives
This study evaluated th efficacy and color stability of three in-office bleaching systems over a period of time of 365 days.
Materials and Method
Results and Discussion
Conclusion
194

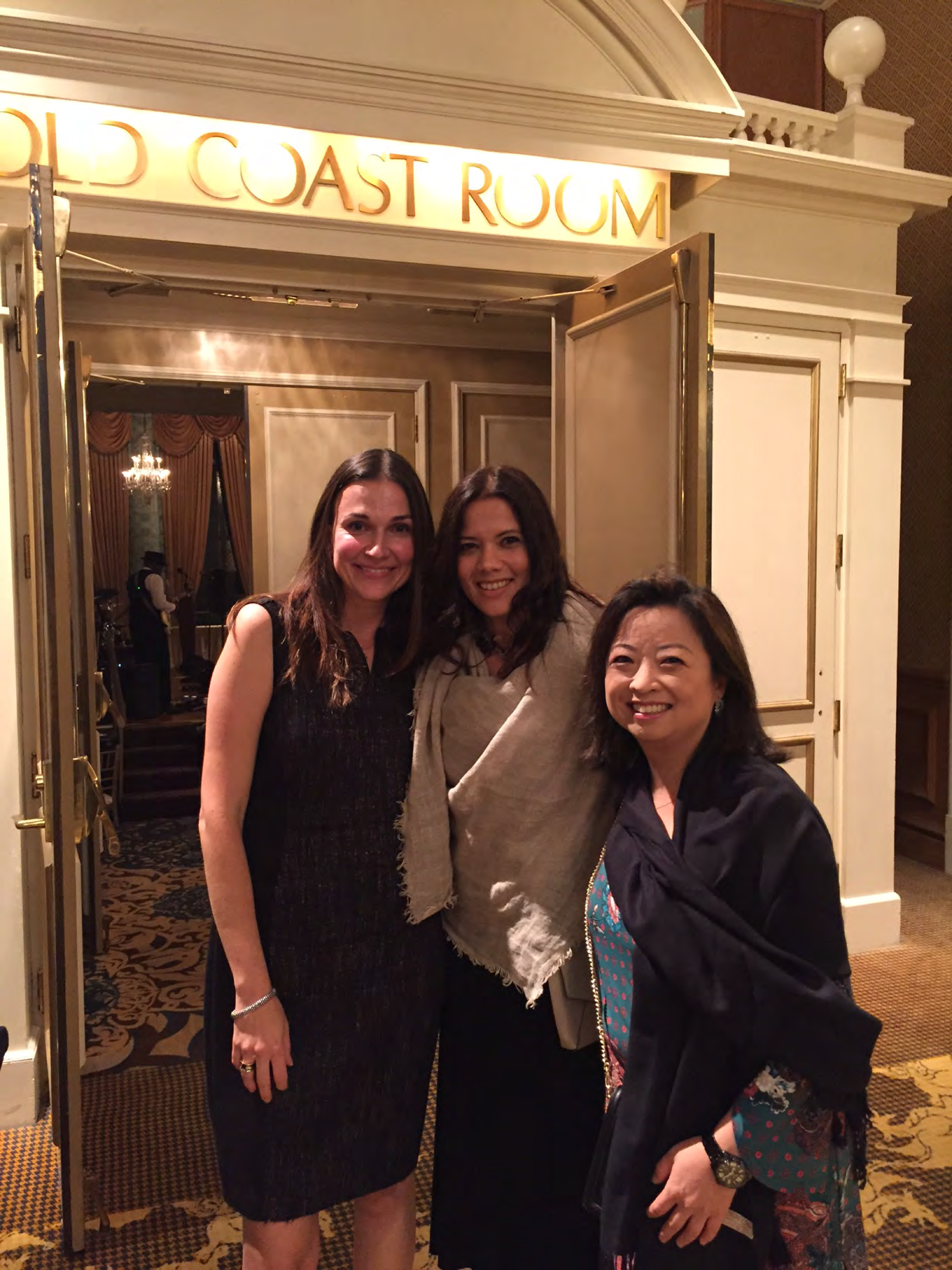
EXIT
Y-TZP LOW TEMPERATURE DEGRADATION: A SIGMOIDAL OR A LINEAR BEHAVIOR?
Arata A., De Pretto L.R., Ussui V., Lima N.B., Freitas A.Z., Machado J.P.B., Tango R.N., De Souza G.M., Lazar D.R.R.
ipen
Statement of the Problem
Materials and Methods
Y-TZP
Aging Test
Biaxial Flexural Strength
SEM
XRD
I - Why Sigmoidal ?
II - Phase Transformation Behavior
III - Linear Evidence
Conclus
P3
Analyse
UCL


EXIT
COMPOUNDS INCORPORATION THAT MODIFY STREPTOCOCCUS MUTANS VIRULENCE IN RESTORATIVE MATERIALS
Introduction
Conclusion
P2
Y-TZP LOW TEMPERATURE DEGRADATION: SIGMOIDAL OR A LINEAR BEHAVIOR?
Phase Transformation Behavior
Linear Evidence
P3

Improving Mechanical Properties of GICs by adding Hydroxyapatite
Fluorapatite Nanoparticles
MARQUETTE UNIVERSITY
School of Dentistry
Marquette University School of Dentistry, Milwaukee, WI 53233, USA
Abstract
Introduction
Materials & Methods
Results
197
Sneha
MARQUETTE UNIVERSITY
School of Dentistry
Kimia Khoshroo
Mohammadreza
Abstract
The purpose of this study was to fabricate and evaluate novel three dimensional scaffolds made of poly(lactic-co-glycolic acid) (PLGA)/layered double hydroxide (LDH) composite microspheres for potential bone substitute applications.
Conclusions


Leticia


SALES AND CATERING
Badges


OLD COAST ROOM