

## UNIVERSITY OF PENNSYLVANIA SCHOOL OF DENTAL MEDICINE

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Education:

1982-86	B.S.	Shanghai Normal University (Physics) Shanghai, P. R. China
1995-97	M.S.	La Trobe University (Physics) Bundoora, VIC 3086, Australia
1997-02	Ph.D.	Monash University (Materials Science and Engineering) Clayton, VIC 3800, Australia

Postgraduate Training and Fellowship Appointments:

2001-02	Research Fellow	Materials Science and Engineering Department Monash University, Clayton, VIC 3800, Australia
2002-05	Research Fellow	New York University College of Dentistry National Institute of Standards and Technology American Dental Association Foundation (joint project)

Faculty Appointments:

1986-87	Faculty, Department of Physics, Shanghai Institute of Light Industry, Shanghai, P. R. China
1987-89	Faculty, Department of Electrical Engineering, Shanghai Real Estate Specialty Institute, Shanghai, P. R. China
2005-11	Assistant Professor, Department of Biomaterials and Biomimetics, New York University College of Dentistry
2005-06	Guest Scientist, Materials Science and Engineering Laboratory, National Institute of Standards and Technology, Gaithersburg, MD 20899-8500
2011-13	Associate Professor, Department of Biomaterials and Biomimetics, New York University College of Dentistry

2013-18 Associate Professor with tenure, Department of Biomaterials and Biomimetics, New York University College of Dentistry

2018- Professor with tenure, Department of Biomaterials and Biomimetics, New York University College of Dentistry

Other Employment History:

1990-94 Team Leader (Supervisor of a production division) Burton Cables Pty. Ltd (A Division of Pacific Dunlop) Brunswick, VIC 3056, Australia

Awards, Honors and Membership in Honorary Societies:

1998 Borland Research Forum Award  
An award for the best postgraduate seminar presented at the annual forum of the Institute of Materials Engineering Australasia Victorian Branch

2007 Arthur R. Frechette Award  
An award for the best Prosthodontic research undertaken with a Materials Science or Bioengineering oriented protocol  
The International Association for Dental Research/the Prosthodontics Group

2008 Annual Faculty Honor Award  
An award in recognition of commitment to Dr. Martin Luther King's vision of "I Have A Dream"  
New York University

2008 Goddard Junior Faculty Fellowship Award  
A fellowship for tenure track faculty who have successfully completed their three year review, New York University

2008 As a contributing author, our paper received a First Place Award from the Scientific Research Competition (lead author Petra Guess)  
The European Academy of Esthetic Dentistry Meeting

2014 Our poster (lead author Marina de Rosa Kaizer, my Ph.D. student) won the First Place of the best research presentation in the graduates' category  
At the 50<sup>st</sup> Meeting of the Brazilian Dental Materials' Group

2015 Outstanding Teacher Award  
New York University College of Dentistry/Faculty Council

2015 Our poster (lead author Marina de Rosa Kaizer, my Ph.D. student) won the First Place of the best research presentation in the graduates' category at

- the 51<sup>st</sup> Meeting of the Brazilian Dental Materials' Group
- 2015 Our poster (lead author Marina de Rosa Kaizer, my Ph.D. student) won the First Place of the Paffenbarger Award in the PhD category at the Academy of Dental Materials Annual Meeting
- 2018 Mr. Titus Son (a DDS student I mentored) has been selected to receive a 2018 AADR Student Research Fellowship
- 2018 Our poster (lead author Nantawan Kolakarnprasert, my MS student) won the First Place in the Postgraduate Material Science category at the 34<sup>th</sup> Annual American Association of Cosmetic Dentistry (AACD) Scientific Session
- 2018 The Kathleen C. Kinnally Award for Outstanding Scientific Achievement, New York University College of Dentistry
- 2018 Our poster (lead author Marina de Rosa Kaizer, my postdoc) won the Marshall Postdoctoral Award at the Academy of Dental Materials Annual Meeting

Membership in Professional and Scientific Societies: (Include offices held.)

National Societies:

- American Association for Dental Research (Fellow, 2017- )
- Academy of Dental Materials (Fellow, 2018- )
- The Dental Materials Group of the International Association for Dental Research (Secretary, 2014-16)
- The Dental Materials Group of the International Association for Dental Research (Vice President, 2016-17)
- The Dental Materials Group of the International Association for Dental Research (President-Elect, 2017-18)
- The Dental Materials Group of the International Association for Dental Research (President, 2018-19)
- International Association for Dental Research (Member, 2003- )
- Australian Ceramic Society (Member, 2009- )
- Society for Color and Appearance in Dentistry (Member, 2015-16)

National Scientific Committees:

- National Institutes of Health, Oral, Dental and Craniofacial Sciences Study Section, member, 2018-2020; Acting Chair, 2019-2020

Editorial Positions:

- 2016- Editorial board member, Journal of Operative and Esthetic Dentistry
- 2017-23 Editorial board member, Journal of Dental Research

2019- Associate Editor, The International Journal of Prosthodontics

Academic Committees at New York University College of Dentistry:

2009-11 Research Advisory Committee  
 2010-12 The Ad Hoc Accreditation Committee on Standard 3: Faculty and Staff  
 2010-12 Curriculum Committee  
 2015-17 The Ad Hoc Accreditation Committee on Standard 6: Research  
 2016-19 Faculty Council  
 2018- Curriculum Committee  
 2019- Council on Humanitarianism

Academic Community Service:

2007-11 PhD Examination Committee, the School of Graduate Studies, SUNY Downstate Medical Center  
 2015-17 PhD Examination Committee, the Department of Physics & Astronomy, Hunter College, the City University of New York  
 2016 PhD Examination Committee, Courant Institute of Mathematical Sciences, New York University

Major Teaching at New York University College of Dentistry:

1. 2005- Course Director, Metallic and Ceramic Biomaterials (BIOM-GA 1001), Master of Science in Biomaterials Program, 3 credits, 42 hours per semester
2. 2006-13 Course Director, Bioceramics (BIOM-GA 1003) Master of Science in Biomaterials Program, 3 credits 42 hours per semester
3. 2007- Course Director, Complex Material Systems: Composites (BIOM-GA 1017) Master of Science in Biomaterials Program, 3 credits, 42 hours per semester
4. 2013- Course Director, Prosthodontics Advanced Biomaterials Course (BEHSC-DN.8056-001) Postgraduate Prosthodontics Course, 1 credit, 17 hours per semester

CE Courses Taught and other Lectures at New York University College of Dentistry: (Only those in the past 5 years are listed)

02/11/2014 "Ceramic Restorative Materials"  
 D3 Advanced Restorative Course (50 mins)  
 05/27/2014 "Challenges and Opportunities in Ceramic-based Restoratives"

- Implant Dentistry Postgraduate Course, Spring 2014  
(1 hour)
- 03/25/2015 “Ceramics in Restorative and Implant Dentistry”  
NYU Dentistry CDE Implant Course (1 hour)
- 10/12/2015 “Challenges and Opportunities in Ceramic Science”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)
- 11/16/2015 “Analytical Methods – Mechanical Testing”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)
- 02/08/2016 “Update of Ceramics for Implant Dentistry”  
NYU Dentistry CDE Implant Course (1 hour)
- 03/30/2016 “Challenges and Opportunities in Ceramic Science”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)
- 10/12/2016 “Fatigue and Wear”  
Physical and Chemical Methods, Master of Science in  
Biomaterials Program (2 hours)
- 11/14/2016 “Analytical Methods – Mechanical Testing”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)
- 02/08/2017 “Ceramic Update for Implant Dentistry: Material  
Science”  
NYU Dentistry CDE Implant Course (1 hour)
- 03/07/2017 “Ceramic in Dentistry: An Update”  
NYU Dentistry CDE Aesthetics Course (3 hours)
- 04/28/2017 “Ceramics in Aesthetic and Restorative Dentistry:  
Challenges and Opportunities”  
Keynote Presentation  
NYU Dentistry Annual Research Days (1 hour)
- 09/25/2017 “Challenges and Opportunities in Ceramic Science”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)
- 11/13/2017 “Analytical Methods – Mechanical Testing”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)
- 02/07/2018 “Ceramic Update: Part I”  
NYU Dentistry CDE Aesthetics Course (3 hours)
- 04/27/2018 “Developing Novel Ceramic Restorative Materials for  
Enhanced Performance”  
Distinguished Scientist Lecture and Presentation of  
the Kathleen C. Kinnally Outstanding Scientific  
Achievement Award  
NYU Dentistry Annual Research Days (1 hour)
- 10/10/2018 “Ceramics for Implant Dentistry”  
NYU Dentistry CDE Implant Course (1 hour)

- 10/15/2018 “Challenges and Opportunities in Ceramic Science”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)
- 10/22/2018 “Analytical Methods – Mechanical Testing”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)
- 01/20/2019 “Ceramic Update: Part II”  
NYU Dentistry CDE Aesthetics Course (3 hours)
- 03/26/2019 “CAD/CAM Ceramics for Implants”  
NYU Dentistry CDE Implant Course (1 hour)
- 10/21/2019 “Challenges and Opportunities in Ceramic Science”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)
- 10/21/2019 “Analytical Methods – Mechanical Testing”  
Introduction to Research, Master of Science in  
Biomaterials Program (2 hours)

Lectures by Invitation: (Basic Scientist: list only those in the past 5 years)

1. 02/16/2014 **Invited Speaker**  
“Improving the Resistance to Contact and Flexural  
Damage of Ceramics using Elastic Gradients”  
TMS 2014 143<sup>rd</sup> Annual Meeting & Exhibition, San  
Diego, CA
2. 04/11/2014 **Invited Speaker**  
“Current and Future Dental Ceramics”  
Second District Dental Society, Brooklyn, NY
3. 07/30/2014 **Invited Speaker**  
“Fatigue Damage Mechanisms and Failure Prevention  
in All-Ceramic Restorations”  
Brazilian Dental Materials Congress, Pelotas, Brazil
4. 07/30/2014 **Invited Speaker**  
“Developments in Ceramic and Polymeric Materials in  
the Last 50 Years”  
Brazilian Dental Materials Congress, Pelotas, Brazil
5. 11/04/2014 **Invited Talk**  
“Performance of Dental Ceramics: Challenges and  
Opportunities”  
Department of Preventive and Restorative Sciences,  
School of Dental Medicine, The University of  
Pennsylvania, Philadelphia, PA
6. 01/06/2015 **Invited Talk**  
“Zirconia as a Dental Material”  
Shanghai Institute of Ceramics, Chinese Academy of  
Sciences, Shanghai, China
7. 01/25/2015 **Invited Speaker**

- “Functionally Graded Ceramics for Next-generation Dental Restorations”  
39<sup>th</sup> International Conference and Expo on Advanced Ceramics and Composites (ICACC’15), Daytona Beach, FL
8. 02/24/2015 **Keynote Presentation**  
“Ceramics for Dentistry: Challenges and Opportunities”  
School of Dentistry Research Day 2015, University of Mississippi Medical Center, Jackson, MS
9. 05/28/2015 **Invited Talk**  
“Fatigue of Ceramic and Composite Dental Restorations”  
Dr. Anthony Volpe Research Center, ADA Foundation, Gaithersburg, MD
10. 08/27/2015 **Invited Speaker**  
“Mechanisms of Fatigue Fracture in Monolithic and Layered Restorations”  
The 23<sup>rd</sup> European Dental Materials Conference, Nürnberg, Germany
11. 08/31/2015 **Invited Talk**  
“Ceramic Materials: Clinical Needs and Research Answers”  
Vita Zahnfabrik, Bad Säckingen, Germany
12. 09/24/2015 **Invited Speaker**  
“The Quest for Strong and Aesthetic Ceramics”  
The 7<sup>th</sup> Annual Conference of the Society for Color and Appearance in Dentistry, Chicago, IL
13. 12/16/2015 **Invited Talk**  
“Application of Zirconia in Dentistry: Mechanical and Optical Considerations”  
School of Metallurgy and Environment, Central South University, Changsha, Hunan, China
14. 12/18/2015 **Invited Talk**  
“Ceramics in Aesthetic and Restorative Dentistry”  
School of Stomatology, Central South University, Changsha, Hunan, China
15. 12/18/2015 **Invited Talk**  
“Application of Ceramics in Restorative Dentistry”  
College of Stomatology, Guangxi Medical University, Nanning, Guangxi, China
16. 06/22/2016 **Keynote Presentation**  
“Bonding between Porcelain Overlay, Zirconia Framework, and Resin Cement: Challenges and Opportunities”

- IADR General Session & Exhibition, Dental Materials 1: Ceramic-based Materials, Seoul, Republic of Korea
17. 11/17/2016 **Invited Speaker**  
“Zirconia: What Future Awaits Us?”
18. 12/15/2016 **Invited Talk**  
The 35<sup>th</sup> International AIOP Congress, Bologna, Italy  
“Current Controversies and Future Trends in Restorative Materials”  
School of Stomatology, Tongji University, Shanghai, China
19. 10/18/2017 **Invited Speaker**  
“Ceramics in Dentistry: Challenges and Opportunities”  
International Workshop on Advanced Ceramic Materials, Badajoz, Spain
20. 10/28/2017 **Invited Talk**  
“Ceramics in Restorative Dentistry: An Update”  
College of Stomatology, Guangxi Medical University, Nanning, Guangxi, China
21. 01/05/2018 **Invited Talk**  
“Biomimetic Design of Functionally Graded Ceramics for Enhanced Performance”  
Jiaotong University, Shanghai, China
22. 01/11/2018 **Invited Talk**  
“Recent Advances in Ceramics for Dental Restorations”  
College of Stomatology, Guizhou Medical University, Guiyang, Guizhou, China
23. 10/04/2018 **Invited Speaker**  
“Performance of Zirconia-Based Dental Ceramics: Challenges and Opportunities”  
Academy of Dental Materials Annual Meeting, Porto de Galinhas, Pernambuco, Brazil
24. 03/15/2019 **Invited Speaker**  
“Recent Advancements in Restorative Ceramics”  
Academy of Osseointegration 2019 Annual Meeting, Washington DC
25. 05/18/2019 **Invited Speaker**  
“Long-Term Bonding Efficacy of Zirconia-Based Restorative Materials”  
2<sup>nd</sup> BioMatdevices, Porto, Portugal
26. 07/23/2019 **Invited Speaker**  
“Dental Ceramics: From Materials Selection to Clinical Applications”  
Brazilian Dental Materials Congress, Passo Fundo, Brazil
27. 12/07/2019 **Invited Speaker**



“Novel Lithia-Based Glass-Ceramics in Dentistry”  
 The Greater New York Academy of Prosthodontics  
 65<sup>th</sup> Scientific Meeting, New York, NY  
<http://www.cvent.com/events/the-greater-new-york-academy-of-prosthodontics-65th-scientific-meeting/speakers-af4c409329ca45b88dedec3ab7507709.aspx>

#### Organizing Roles in Scientific Meetings:

2008	Conference scientific program committee member, The 4 <sup>th</sup> International Symposium on Apatites and Correlative Biomaterials, Manila, Philippines,
2013	Symposium organizer, Symposium on the Performance of Zirconia-Based and Lithium Disilicate Glass-Ceramic Dental Restorations, IADR/AADR/CADR General Session
2014	Symposium organizer, Symposium on Natural and Synthetic Biomaterials, The 13th International Symposium on Multiscale, Multifunctional & Functionally Graded Materials (MM&FGM2014), Sao Paulo, Brazil
2018	Group Program Chair (oversee all 8 Dental Materials Symposiums), The 47 <sup>th</sup> Annual Meeting & Exhibition of the American Association for Dental Research, Fort Lauderdale, FL, USA
2018	Group Program Chair (oversee all 8 Dental Materials Symposiums), The 96 <sup>th</sup> General Session & Exhibition of the International Association for Dental Research, London, UK
2019-20	Conference Co-Chair, 16 <sup>th</sup> International Symposium on Functionally Graded Materials, Hartford, CT, USA; August 9-12, 2020

#### Bibliography:

##### **Peer-reviewed Journal Articles**

(To view the PDF version of the article, please **Ctrl+Click** the hyperlink below each publication).

##### **Complete List of Published Work in MyBibliography:**

<http://www.ncbi.nlm.nih.gov/sites/myncbi/yu.zhang.5/bibliography/45118391/public/?sort=date&direction=descending>

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- Materials*. Available online 3 August 2020, In Press.  
<https://doi.org/10.1016/j.dental.2020.07.001>
2. De Souza RH, Kaizer, Borges CEP, Fernandes ABF, Correr GM, Diógenes AN, **Zhang Y**, Gonzaga CC, Flexural strength and crystalline stability of a monolithic translucent zirconia subjected to grinding, polishing and thermal challenges, *Ceramics International*. Available online 22 July 2020, In Press. <https://doi.org/10.1016/j.ceramint.2020.07.114>
  3. Ortiz AL, Rodrigues CS, Guiberteau F, **Zhang Y**, An in situ and ex situ study of the microstructural evolution of a novel lithium silicate glass-ceramic during crystallization firing, *Dental Materials*. 36(5):645-659, 2020.  
<https://doi.org/10.1016/j.dental.2020.03.011>  
[https://drive.google.com/file/d/1ffSZeCqX\\_-qctltwrthRNnp0IEM2V4OI/view?usp=sharing](https://drive.google.com/file/d/1ffSZeCqX_-qctltwrthRNnp0IEM2V4OI/view?usp=sharing)
  4. Borrero-Lopez O, Guiberteau F, **Zhang Y**, Lawn BR, Inverse correlations between wear and mechanical properties in biphasic dental materials with ceramic constituents, *Journal of the Mechanical Behavior of Biomedical Materials*. 105:103772, 2020.  
<https://doi.org/10.1016/j.jmbbm.2020.103722>  
<https://drive.google.com/open?id=1FPka53lvRK6qjDkQIAEZuwuoc30avObp>
  5. Vila-Nova TEL, de Carvalho IHG, Moura DMD, Batista AUD, **Zhang Y**, Paskocimas CA, Bottino MA, Souza ROA, Effect of Finishing/Polishing Techniques and Low Temperature Degradation on the Surface Topography, Phase Transformation and Flexural Strength of Ultra-Translucent ZrO<sub>2</sub> Ceramic, *Dental Materials*. 36(4):e126-e139, 2020. <https://doi.org/10.1016/j.dental.2020.01.004>  
<https://drive.google.com/open?id=1RJF98B5wDati95B7eeQvs7oVTruK6o7z>
  6. Wendler M, Kaizer MR, Belli R, Lohbauer U, **Zhang Y**, Sliding Contact Wear and Subsurface Damage of CAD/CAM Materials against Zirconia, *Dental Materials*. 36(3):387-401, 2020. <https://doi.org/10.1016/j.dental.2020.01.015>  
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<https://doi.org/10.1016/j.dental.2020.01.019>  
<https://drive.google.com/open?id=1YUSvZNWcTP-hyk9obx55wYHb8e02ml0k>
  8. Srinivasan K, Mijares D, Janal M, Aranya AK, Zhang DS, LeGeros R, **Zhang Y**, In-Vivo Efficacy of Calcium-Phosphate Based Synthetic-Bone-Mineral on Bone Loss Resulting from Estrogen and Mineral Deficiencies, *Journal of Biomedical Materials Research—Part B Applied Biomaterials*. Accepted for publication.
  9. Dhital S, Rodrigues C, **Zhang Y**, Kim J, Viscoelastic Finite Element Evaluation of Transient and Residual Stresses in Dental Crowns: Design Parametric Study, *Journal of the Mechanical Behavior of Biomedical Materials*. 103:103545, 2020.  
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  10. Kaizer MR, Kolakarnprasert N, Rodrigues C, Chai H, **Zhang Y**, Probing the Interfacial Strength of Novel Multi-Layer Zirconias, *Dental Materials*. 36(1):60-67, 2020.  
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  11. Cao Y, Guo Y, Chen L, Han J, Tong H, Zhang B, **Zhang Y**, Effects of Different Surface Treatments on Bonding Strength of Resin Cement to Machined Pure Titanium, *The Journal of Adhesive Dentistry*. 21(5):401-411, 2019. DOI: 10.3290/j.jad.a43182

- <https://drive.google.com/open?id=1p2LPiHBgltVeK0dissPZfC1FliCuZkO>
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<https://drive.google.com/open?id=1p2mwhn8hB6GQKPXmQfaDMGi9PvsMe15a>
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  15. Dhital S, Rokaya A, Kaizer MR, **Zhang Y**, Kim J, Accurate and Efficient Thermal Stress Analyses of Functionally Graded Solids Using Incompatible Graded Finite Elements, Composite Structures. 222:110909, 2019. [doi.org/10.1016/j.compstruct.2019.110909](https://doi.org/10.1016/j.compstruct.2019.110909)  
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  17. Ortiz AL, Borrero-Lopez O, Guiberteau F, **Zhang Y**, Microstructural Development During Heat Treatment of a Commercially Available Dental-Grade Lithium Disilicate Glass-Ceramic, *Dental Materials*. 35:697-708, 2019. [doi.org/10.1016/j.dental.2019.02.011](https://doi.org/10.1016/j.dental.2019.02.011)  
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22. Ramos NC, Kaizer MR, Campos TMB, Kim J, **Zhang Y**, de Melo RM, Silica-Based Infiltrations for Enhanced Zirconia-Resin Interface Toughness, *Journal of Dental Research*. 98(4):423-429, 2019. doi: 10.1177/0022034518819477  
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23. Tanaka CB, Ballester RY, de Souza GM, **Zhang Y**, Meira JBC, Influence of Residual Thermal Stresses on the Edge Chipping Resistance of PFM and Veneered Zirconia Structures: Experimental and FEA Study, *Dental Materials*. 35(2):344-355, 2019. doi: 10.1016/j.dental.2018.11.034  
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24. **Zhang Y**, Lawn BR, Evaluating Dental Zirconia, *Dental Materials*. 35:15-23, 2019. doi.org/10.1016/j.dental.2018.08.291  
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25. Yan J, Kaizer MR, **Zhang Y**, Load-Bearing Capacity of Lithium Disilicate and Ultra-Translucent Zirconias, *Journal of the Mechanical Behavior of Biomedical Materials*. 88:170-175, 2018. doi.org/10.1016/j.jmbbm.2018.08.023  
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38. Johnson H, Kaizer MR, dos Santos MBF, **Zhang Y** (2017) Hybrid Restorative Materials—Study on Resistance to Wear. IADR:Abstract ID#2361.
39. Zhao M, Sun Y, Zhang J, Brewster J, Kaizer MR, **Zhang Y** (2017) Mechanical Properties and Aesthetic Performance of Novel Translucent Alumina Ceramics. IADR:Abstract ID#0486.
40. Koh S, Guo Y, Tewolde K, Mijares DQ, **Zhang Y**, Li X (2017) Analysis of Osteogenic Differentiation of Bone Marrow Stromal Cells on New Materials. AADR:Abstract ID#1918.
41. Kaizer MR, Chughtai A, Moraes RR, Cava SS, **Zhang Y** (2017) Progressive Wear of Graded Zirconia and its Dental Ceramic Counterparts. AADR:Abstract ID#0095.
42. Ramos N, Campos T, **Zhang Y**, de Melo RM (2017) Y-TZP Flexural Strength after Silica Infiltrations by the Sol-Gel Method. AADR:Abstract ID#1997.
43. Srinivasan K, Naula D, Mijares D, LeGeros R, **Zhang Y** (2016) Bone Preservation and Recovery with Synthetic-Bone-Mineral (SBM) in Osteoporotic Rat. AADR:Abstract ID#2406744.
44. Chughtai A, Mai Z, Pang Z, Brewster J, **Zhang Y** (2016) Fatigue Resistance of monolithic CAD/CAM Zirconia and Lithium Disilicate Crowns. AADR:Abstract ID#2406873.
45. Gill P, Mai Z, Chughtai A, **Zhang Y** (2016) Sliding Contact Fatigue of Hybrid Restorative Materials. AADR:Abstract ID# 2410891.
46. Cao J, Srikanth R, **Zhang Y** (2016) Initial and Fatigue Strength of IPS e.max CAD vs. Press. AADR:Abstract ID#2399050.
47. Brewster J, Gill P, Chughtai A, **Zhang Y** (2016) Long-Term Bonding Efficacy: 3 CAD Restoratives x 2 Universal Adhesives. AADR:Abstract ID#2392474.
48. Naula D, Srinivasan K, Mijares D, LeGeros R, **Zhang Y** (2016) Mechanical Properties of Ovariectomized Sheep Lumbar Vertebrae Treated with Synthetic-Bone-Mineral. AADR:Abstract ID#2406727.
49. Zhao M, Sun Y, Zhang J, **Zhang Y** (2016) Submicron Grain Sized Alumina Ceramics for Translucency and Strength. AADR:Abstract ID#2409287.
50. Son T, Chughtai A, Tanaka C, **Zhang Y** (2016) Edge-Chipping Resistance of Zirconia, Glass-ceramic, and Porcelain. AADR:Abstract ID#2408316.
51. Kaizer MR, Rosa JA, Gonçalves APR, **Zhang Y**, Cava SS, Moraes RR (2015). “Silica Coated Crystalline, Non-silicate Nanoparticles for Improved Hybrid Biomaterials”. Academy of Dental Materials Annual Meeting 2015, October 7-10, Hawaii, USA.
52. **Zhang Y** (2015). “The Quest for Strong and Aesthetic Ceramics”. The 7<sup>th</sup> Annual Conference of the Society for Color and Appearance in Dentistry, September 24-26, Chicago, IL.
53. **Zhang Y** (2015). “Mechanisms of Fatigue Fracture in Monolithic and Layered Restorations”. The 23<sup>rd</sup> European Dental Materials Conference, August 27-28, Nürnberg, Germany.
54. Kaizer MR, **Zhang Y**, Cesar PF, Cava SS, Moraes RR (2015). “Modeling Properties of Ceramic Composites with Mono or Polycrystalline Alumina”. IADR:Abstract ID#1862
55. Shembish FA, Tong H, Kaizer MR, Thompson VP, **Zhang Y** (2015). “Fatigue Resistance of CAD/CAM Resin Based Composite Restorative Crowns”. IADR:Abstract ID#1988

56. Tanaka BT, Ballester RY, De Souza GM, **Zhang Y**, Meira JBC (2015). "Influence of Residual Stresses on Chipping Resistance of Bilayer Specimens". IADR:Abstract ID#2130
57. Naula D, Mijares DQ, **Zhang Y** (2015). "Synthetic Bone Mineral Prevents Oral Bone Loss in Osteoporotic Rats". IADR:Abstract ID#3272
58. Pang Z, Chughtai A, Sailer I, **Zhang Y** (2015). "A Fractographic Study of Clinically Retrieved Zirconia-Ceramic and Metal-Ceramic FPDs". AADR:Abstract ID#3535
59. **Zhang Y** (2015). "Functionally Graded Ceramics for Next-generation Dental Restorations". The 39<sup>th</sup> International Conference and Expo on Advanced Ceramics and Composites, January 25-30, Daytona Beach, FL.
60. **Zhang Y** (2014). "Biomimetic Designs of Functionally Graded Ceramics for Enhance Performance". The 13th International Symposium on Multiscale, Multifunctional & Functionally Graded Materials (MM&FGM2014), Sao Paulo, Brazil, 2014
61. **Zhang Y**, Ren L (2014). "A Constitutive Relationship for Sliding-Contact Fracture of Dental Ceramics". IADR:Abstract ID#:189421
62. Kaizer MR, Srikanth Ramanathan, Tong H, Guess P, **Zhang Y** (2014). "Monolithic Zirconia x Steatite Antagonist: Microstructure and Sliding Fatigue" AADR:Abstract ID#185041
63. Tong H, Kaizer MR, Srikanth R, **Zhang Y** (2014). "Characterization of Three Y-TZP Ceramics: High-Strength, High-Surface Area, High-Translucency". AADR:Abstract ID#185365
64. Tanaka CB, Ballester RY, De Souza G, **Zhang Y**, Meira JBC (2014). "Edge Chipping Resistance of Veneering Ceramics for Metal and Zirconia". IADR:Abstract ID#185355
65. Karwaa M, Zhang Y (2014). "Influence of Cooling Rate on Residual Stresses in Zirconia-Porcelain Bilayers". AADR:Abstract ID#184296
66. Harisha H, Baldassarri M, Wolff MS, **Zhang Y** (2014). "Influence of Geometry on Thermal Stresses in Zirconia Bilayers". AADR:Abstract ID#185360
67. Kulkarni A, Mijares D, LeGeros RZ, **Zhang Y** (2014). "Synthetic Bone Mineral Prevents Bone Loss in Osteoporotic Sheep Spine". AADR:Abstract ID#186673

#### Book Chapters and Monographs:

1. Madeira S, de Souza JCM, Fredel MC, Henriques B, Silva FS, **Zhang Y**. Functionally Graded Nanostructured Biomaterials (FGNB) (Chapter 9) in *Nanostructured Biomaterials for Cranio-Maxillofacial and Oral Applications* edited by Júlio Souza, Dachamir Hotza, Aldo Roberto Boccaccini and Bruno Henriques, Elsevier, April 14<sup>th</sup>, 2018, pp. 159-80.  
<https://drive.google.com/open?id=1UmOMnU1RoWXC2a2pyfGhgmDUbeSjil5X>
2. **Zhang Y**, Chughtai A, Wolff MS, Trushkowsky R, Chai H. Interfaces in Fixed Dental Prostheses: Challenges and Opportunities (Chapter 3) in *Material-Tissue Interfacial Phenomena Contributions from Reconstructions* edited by Paulette Spencer and Anil Misra, Woodhead Publishing, Elsevier Limited, The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB, United Kingdom, 2016, pp. 67-83.  
<https://drive.google.com/file/d/0B1B1coCflNHCMUitOWVvX19LTm8/view?usp=sharing>
3. **Zhang Y**. Silicon Nitride and Silicon Carbide Based Ceramics (Chapter 20) in *Ceramic Matrix Composites* edited by I. M. Low, Woodhead Publishing Limited, Abington, Cambridge, England, 2006, pp. 536-59.

<https://drive.google.com/file/d/0B1B1coCfINHcdGk3NHZJNjJnX2s/view?usp=sharing>

Conference Proceedings Edited:

1. The 4<sup>th</sup> International Symposium on Apatites and Correlative Biomaterials, edited by LeGeros RZ, **Zhang Y**, LeGeros JP. Manila, Philippines, 2008

Patents:

1. **Zhang Y**, LeGeros RZ, Kim JW. Bioactive Graded Zirconia-Based Structures. US Patent Number: 8703294. Full patent issued on April 22<sup>nd</sup>, 2014.
2. **Zhang Y**, Kim JW. Graded Glass/ZIRCONIA/Glass Structures for Damage Resistant Ceramic Dental and Orthopedic Prostheses. US Patent Number: 8815327. Full patent issued on August 26<sup>th</sup>, 2014.
3. **Zhang Y**, Kim JW. Thompson VP. Graded Glass/CERAMIC/Glass Structures for Damage Resistant Ceramic Dental and Orthopedic Prostheses. US Patent Number: 8951597. Full patent issued on February 12<sup>th</sup>, 2015.

Postdoctoral Fellows Mentored:

2006-09	Dr. Jae Won Kim (Now a Principal Scientist at Glidewell Laboratories) Dr. Kim's postdoctoral research project "Fatigue behavior of a novel graded zirconia-glass restorative material" has been selected as a finalist for the AADR/Johnson & Johnson Healthcare Products Hatton Awards (Senior Category, Basic Science) at the 2010 annual meeting of the AADR
2010-13	Dr. Lin Lin Ren (Now a Research Scientist at Chinese Academy of Sciences, P. R. China) Dr. Ren's postdoctoral research project "Sliding contact fatigue resistance of a new glass/zirconia/glass restorative material" has been selected as a finalist for the IADR/Unilever Hatton Competition and Awards (Senior Category, Basic Science) at the 2011 annual meeting of the IADR
2013-15	Dr. Tong Hui (Now an Associate Professor at Central South University, P.R. China)
2015-18	Dr. Minglei Zhao (Now a Lab Manager at Boston University)
2016-19	Dr. Marina Kaizer (Now an Associate Professor at Universidade Positivo, Brasil) Dr. Kaizer's postdoctoral research project "Novel Strong Graded High-Translucency Zirconias for Broader Clinical Applications" won the Marshall Postdoctoral Award at the Academy of Dental Materials Annual Meeting 2018
2017	Dr. Michael Wendler (Now an Assistant Professor at Universidad de Concepción, Chile)
2018-	Dr. Chek Hai Lim

Supervised PhD Students:

2018-	Dr. Luuk Crins, PhD Candidate
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- Radboud University Medical Center, Radboud Institute for Health Sciences, Department of Dentistry, Nijmegen, The Netherlands  
PhD research project: "An *in vitro* comparison of wear and fracture resistance of dental restorative materials"
- 2018-  
Dr. Larissa Marcia Martins Alves, PhD Candidate  
Universidade Estadual Paulista "Julio De Mesquita Filho" Campus de Sao Jose dos Campos, Instituto de Ciencia e Tecnologia, Sao Jose, SP, Brazil  
PhD research project: "Sliding contact fatigue in translucent zirconia restorations after several surface finishes: survival and wear analyses"
- 2018-  
Dr. Camila da Silva Rodrigues, PhD Candidate  
Cirurgiã-dentista | CRORS 22500  
Mestre em Ciências Odontológicas - Prótese Dental (UFMS)  
Doutoranda em Ciências Odontológicas - Prótese Dental (UFMS)  
PhD research project: "Effect of glaze firing protocols on veneered zirconia: a study of mechanical and optical properties and residual thermal stresses by Finite Elements Method"
- 2018-19  
Dr. Beatriz Togoro Ferreira da Silva, PhD Candidate  
Doutoranda em Dentística - FOUSP  
Mestre em Dentística - FOUSP  
Departamento de Dentística  
Faculdade de Odontologia da Universidade de São Paulo - SP - Brasil  
PhD research project: "Effect of CAD/CAM milling, polishing and sandblasting processes on the mechanical properties of different dental zirconias"
- 2017-18  
Dr. Nathália de Carvalho Ramos, PhD Candidate  
Department of Dental Materials and Prosthodontics  
São Paulo State University (UNESP), São José dos Campos, SP, Brazil/NYU College of Dentistry  
PhD research project: "Effect of silica infiltrations of dental zirconia on interfacial energy to fracture"
- 2012-15  
Dr. Marina da Rosa Kaizer, PhD Candidate  
Federal University of Pelotas, UFPel, Brazil  
PhD research project: "Single and polycrystalline alumina as strengthening phase for glass ceramics"  
Dr. Kaizer's research project "Sliding contact fatigue of monolithic translucent zirconia with external esthetic glass" won the First place in Graduate category at the 50<sup>th</sup> Meeting of the Brazilian Dental Materials Group
- 2012-15  
Dr. Carina Baptiston Tanaka, PhD Candidate  
University of São Paulo, Brazil  
PhD research project: "Chipping of veneered Y-TZP zirconia: experimental and finite element analysis study"

Masters Students Mentored:

- 2005- Supervised or co-supervised 31 MS students to conduct various research projects in the field of biomaterials science at the Department of Biomaterials and Biomimetics, NYU College of Dentistry
- Supervised MS students:
- 2005-07 Mr. Joo-H Kim.  
Thesis: Effect of inclination angle of 30 degrees on the damage evolution in layered structures
- 2007-10 Ms. Neela S. Covell.  
Thesis: Glass/zirconia/glass graded structure for dental restorations: investigations of long-term strength and cement bond properties
- 2008-10 Mr. Eddy Liao.  
Thesis: Functionally graded structure: Y-TZP with bioactive (calcium phosphate) glass coating
- 2008-10 Mr. Erik Dorthe.  
Thesis: Changes in strength and fracture behavior of alumina dental restorative material using a functional glass gradient
- 2009-12 Mrs. Lela Liu.  
Thesis: Antibacterial activity of graded CPG/Y-TZP structures against supra- and subgingival bacteria
- 2009-13 Dr. Abdulaziz Abu-Melha.  
Thesis: Evaluating the mechanical fatigue of endodontic rotary files under different sodium hypochlorite concentrations
- 2010-12 Mr. Kaushal Popat  
Guided study: Preparation of calcium phosphate bioactive antimicrobial glass for bone tissue engineering
- 2010-12 Ms. Heta Parmar  
Guided study: Analyzing anti-microbial activity of doped bioactive calcium phosphate glass against Staphylococcus Aureus, Pseudomonas Aeruginosa and Escherichia Coli
- 2011-12 Ms. Ryana Sikder  
Thesis: Porous C14 template coated with calcium phosphate for medical applications
- 2011-13 Mr. Srikanth Ramanathan  
Thesis: Effects of surface modifications on the flexural strength of zirconia-based restorative materials
- 2011-13 Dr. Hossam Harisha  
Thesis: Influence of cooling rate, veneer thickness and curvature on residual stresses in the porcelain veneered zirconia bilayers
- 2011-13 Dr. Shweta Saraswat  
Thesis: Comparison of the efficacy of commercial liner (GIC) with an experimental calcium phosphate-based liner (CPL) in remineralizing demineralized dentin

- 2011-13 Dr. Haneen Azzuz  
Thesis: Filling Lateral Canals: A comparison of 3 obturation techniques
- 2011-14 Dr. Moid Karwaa  
Thesis: Influence of cooling rate, veneer thickness, geometry, and coefficient of thermal expansion mismatch on residual stresses in porcelain veneered zirconia bilayers
- 2012-14 Dr. Fatma Shembish  
Thesis: Fatigue resistance and the effect of thickness of CAD/CAM composite molar crowns using two different indenters
- 2012-14 Dr. Haifa F. El zhawi  
Thesis: Fatigue behavior of a polymer-infiltrated ceramic-network restorative material
- 2012-14 Mr. Zhen Pang  
Thesis: A fractographic study of clinically failed porcelain-veneered zirconia and porcelain-veneer metal restorations
- 2014-16 Dr. Kritika Srinivasan  
Thesis: Synthetic bone mineral - Assessment of efficacy on trabecular bone loss induced by estrogen and mineral deficiencies in a sheep model
- 2016-18 Dr. Nantawan Kolakarnprasert  
Thesis: Microstructure, phase transformation, mechanical, and optical properties of New Multilayer Translucent Zirconia
- 2016-18 Dr. Lahari Bhavishetty  
Thesis: Application strength of new glass ceramics and zirconia for minimally invasive treatments
- 2017-18 Mr. Jing Yan  
Guided study: Load-bearing properties of lithium disilicate and zirconia restorations
- 2017-18 Mrs. Yutian Yang  
Guided study: Integration of Zn-Ca-P precipitates on zirconia and titanium surfaces
- 2017-19 Mr. Nadav Bashary  
Thesis: Polymer infiltrated ceramic network for CAD-on to zirconia copings and implants
- 2017-19 Dr. Sonaj Vardhaman  
Thesis: Oral wear in new multilayer zirconia
- 2019- Dr. Abdulkarim Alshehri  
Thesis: Contact and flexural damage resistance of bonded glass-ceramics relative to zirconia
- Co-Supervised MS students:
- 2004-06 Dr. Christain Stappert.  
Thesis: Failure modes and fatigue reliability of two glass ceramics tested in a bi-layer model
- 2003-06 Dr. Bongok Kim.

- 2003-08 Thesis: Reliability and failure mode of gold alloy versus palladium alloy metal-ceramic  
Dr. Tomasa Santana.
- 2006-09 Thesis: Failure modes and reliability of four layer structures under off-axis sliding cyclic loading  
Mr. Gary C. Catig.  
Thesis title: Calcium phosphate glass: effects of composition on properties
- 2006-11 Dr. Dindo Q. Mijares.  
Thesis title: Synthetic Bone Mineral (SBM): Prevention of Bone Loss Induced by Estrogen Deficiency in a Rat Model
- 2003-13 Dr. Samar Tannous.  
Thesis title: Synthetic Bone Mineral (SBM): Prevention of Bone Loss Induced by Mineral Deficiency in a Rat Model
- Other students and faculty mentored:
- 2005-06 Dr. Jun-Kwang Song, Guest scientist  
Materials Science and Engineering Laboratory  
National Institute of Standards and Technology
- 2006-07 Ms. Marineé Cabrera, Research Assistant  
Department of Biomaterials and Biomimetics  
NYU College of Dentistry
- 2006-07 Mr. Sang-Won Myoung, Foreign exchange MS student  
School of Nano and Advanced Materials Engineering, Changwon  
National University, Changwon, Korea
- 2007-09 Dr. Petra C Guess (DDS, MS), Visiting Professor  
Department of Prosthodontics, University Hospital,  
Freiburg, Germany  
One of Dr. Guess's papers, in which I am a contributing author, received the First Place Award from the Scientific Research Competition at the European Academy of Esthetic Dentistry Meeting, 2008
- 2007-10 Dr. Ajay Kashi (DDS, MS), PhD student in Biomedical Engineering,  
SUNY Downstate Medical Center
- 2007-09 Mr. Sebastian Velez, summer research high school student  
Mr. Velez's summer research project "Dependence of translucency on thickness for various ceramic frameworks" has been selected for publication (abstract #6499) in the Press Kit of the 2008 AADR Meeting
- 2008-10 Ms. Nataliya Davydova, DDS student at NYU College of Dentistry  
Mrs. Davydova's summer research project "Fatigue damage and micro-leakage study of RBC dental crowns" has received an NYU College of Dentistry Dean's Award, an Honorable Mention Award for student research presentations at the 2008 Greater New York Dental meeting and been selected as a finalist for the Arthur R. Frechette Research Award at the 2009 annual meeting of the IADR

2009	Ms. Olivia C. Rubin, DDS student at NYU College of Dentistry Ms. Rubin's summer research project "Exploring the effects of phosphate monomer on resin-zirconia bond strength" has received an NYU College of Dentistry Dean's Award
2010	Ms. R. Pamela Tilus Ms. Tilus's summer research project "Detecting glass infiltration in graded zirconia materials for dental restorations" was supported by a grant from NYU MRSEC
2010	Ms. Keturah L. Lowe Ms. Lowe's summer research project "Strengthening zirconia using compositional gradients" has received an NYU College of Dentistry Dean's Award Ms. Lowe's summer research project "Optical properties of novel graded glass-zirconia crowns" has received an NYU College of Dentistry Dean's Award
2011	Ms. Maria Muniz, DDS student at NYU College of Dentistry
2012-14	Dr. Anupama K. Aranya Dr. Aranya's research project "Effect of SBM on spine in an osteoporotic sheep model" has won the Outstanding Master's Presentation Award
2012-14	Ms. Joanne C. Lee, DDS student at NYU College of Dentistry
2013	Ms. Nupur Bhupendra Patel, DDS student at NYU College of Dentistry
2013	Mr. Yousef Nezaminia, DDS student at NYU College of Dentistry
2014	Prof. Xu Sheng, Visiting Professor, Director, College of Stomatology, Guangxi Medical University, Guangxi, China
2014	Mr. Yenan Xu, DDS student at NYU College of Dentistry
2014	Ms. Jing-chu A Cao, DDS student at NYU College of Dentistry
2014	Ms. Diana P Naula, DDS student at NYU College of Dentistry
2015	Mr. Titus Son, DDS student at NYU College of Dentistry
2016	Ms. Hannah Johnson, DDS student at NYU College of Dentistry
2016	Dr. Arvin Kadempour, PG Prosthodontics student at NYU College of Dentistry
2016	Dr. Kimberly J MacGregor, PG Prosthodontics student at NYU College of Dentistry
2016	Dr. Hye Soo Kim, PG Prosthodontics student at NYU College of Dentistry
2016	Luuk Crine, international student intern, Radboud University Nijmegen, The Netherlands
2017	Dr. Ali Nazar, PG Prosthodontics student at NYU College of Dentistry
2017	Mr. Eric Cheng, DDS student at NYU College of Dentistry
2017	Ms. Daeun Hur, DDS student at NYU College of Dentistry
2017	Mr. Nikan Sharif-Zadeh, DDS student at NYU College of Dentistry
2017	Mr. Jeff Buizastrow, DDS student at NYU College of Dentistry



2015-16	Prof. Mai Zhisong, Visiting Professor, College of Stomatology, Guangxi Medical University, Nanning, Guangxi, China
2016-17	Prof. Ling Mao, Visiting Professor, The department of prosthodontics, College of Stomatology, Guizhou Medical University, Guiyang, Guizhou, China
2017	Prof. Jing Han, Visiting Professor, The department of implantology, Tianjin Stomatological Hospital, Tianjin, China
2017-18	Prof. Do Kyung Kim, Visiting Professor, Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Republic of Korea

Grant Support:

## Past

2/1/2012-1/31/2017 2/1/2017-1/31/2018	PI. Yu Zhang No-cost extension Title: Graded Zirconia Structures for Resistance to Chipping, Delamination, and Fatigue Grant Number: NIH/NIDCR R01 DE017925 Total Award: \$1,886,500 Time percentage on project: 40%
9/1/2014-8/31/2017 9/1/2017-8/31/2018	PI. Robert Kohn (Co-PI. Yu Zhang) No-cost extension Title: Adaptive Fine-Scale Structure Design: From Theory to Fabrication Grant Number: NSF DMS-1436591 Total Award: \$817,725 Time percentage on project: 5%
3/1/2016-2/28/2017 3/1/2017-2/28/2018	PI. Yu Zhang No-cost extension Title: Toward the Development of Strong and Translucent Graded Nanozirconia Grant Number: Technology Acceleration & Commercialization (TAC) award, NYU Total Award: \$50,000 Time percentage on project: N/A
9/15/2008-9/14/2013 9/15/2013-8/31/2014	PIs. Racquel Z. LeGeros and Yu Zhang No-cost extension Title: Biomaterials (MZF-CaP) for Osteoporosis Prevention, Therapy and Bone Repair Grant Number: NIH/NIAMS R01 AR056208 Total Award: \$3,230,000 Time percentage on project: 20%

6/15/2008-5/31/2011 5/31/2011-5/30/2012	PI. Yu Zhang No-cost extension Title: Fatigue Behavior of Functionally Graded Ceramics—Synthesis, Experiments, and Analysis Grant Number: NSF CMMI-0758530 Total Award: \$120,000 Time percentage on project: 5%
9/1/2007-8/31/2010 9/1/2010-8/31/2011	PI. Yu Zhang No-cost extension Title: Graded Structures for Damage Resistant All-Ceramic Restorations Grant Number: NIH R01 DE017925 Total Award: \$1,153,750 Time percentage on project: 40%
10/2009-12/31/2011	PI. Kenneth L. Lambert (Consultant: Yu Zhang) Title: Calcium Phosphate Bone Cement Nanocomposites Grant Number: NIH R43 AR056167 Total Award: \$509,669 Time percentage on project: N/A
3/1/2016-2/28/2017 3/1/2017-2/28/2018	PI. Yu Zhang No-cost extension Title: Substituted Calcium Phosphate Implant Coating for Bioactive and Antibacterial Properties Grant Number: International Congress of Oral Implantologists, Implant Dentistry Research and Education Foundation (IDREF) Grant Total Award: \$25,000 Time percentage on project: N/A
8/31/2018-9/1/2019	PI. Yu Zhang Title: Biaxial Flexural Strength and Fracture Toughness $K_{Ic}$ of Celtra Press Grant Number: Dentsply Sirona Total Award: \$5,000 Time percentage on project: 1%
3/1/2015-2/28/2016	PI. Yu Zhang Title: Wear Behaviour of IPS e.max CAD and Lava Ultimate Molar Crowns Grant Number: Ivoclar Vivadent AG Total Award: \$20,000 Time percentage on project: 1%

11/1/2012-6/14/2014 PIs. Racquel Z. LeGeros and Yu Zhang  
Title: Characterization of Stryker Orthopaedics PureFix™ Plasma-Sprayed Hydroxyapatite (HA) Coating  
Grant Number: Stryker  
Total Award: \$74,750  
Time percentage on project: 2%

9/1/2011-1/31/2014 PI. Yu Zhang  
Title: Fatigue Test Analysis of Two Anatomically-Correct Zirconia Restorations Designs  
Grant Number: Ivoclar Vivadent AG  
Total Award: \$71,858  
Time percentage on project: 1%

9/1/2011-1/31/2014 PI. Yu Zhang  
Title: Coping Design and Veneering Techniques of Zirconia Restorations  
Grant Number: Ivoclar Vivadent AG  
Total Award: \$45,088  
Time percentage on project: 1%

7/1/2012-12/31/2013 PI. Yu Zhang  
Title: Slow Crack Growth Behavior and Fatigue Strength of Lithium Disilicate Glass-Ceramics  
Grant Number: Ivoclar Vivadent AG  
Total Award: \$20,000  
Time percentage on project: 1%

5/1/2012-8/31/2013 PI. Yu Zhang  
Title: Anatomic Zirconia Coping to Reduce Porcelain Chipping  
Grant Number: Ivoclar Vivadent AG  
Total Award: \$36,915  
Time percentage on project: 1%

9/14/2012-12/31/2012 PI. Yu Zhang  
Title: Fabrication of Graded Zirconia Bar Specimens  
Grant Number: Straumann  
Total Award: \$5,000  
Time percentage on project: 1%

1/4/2011-8/31/2012 PI. Yu Zhang  
Title: Sliding Contact, Flexural and Fatigue Damage Resistance of Lithium Disilicate Glass-Ceramics  
Grant Number: Ivoclar Vivadent AG  
Total Award: \$24,000

- Time percentage on project: 1%
- 5/29/2009-5/28/2010 PI. Christian F.J. Stappert (Co-PI. Yu Zhang)  
 Title: Fatigue Analyses of two All-ceramic Implant Abutment Systems  
 Grant Number: BIOMET 3i  
 Total Award: \$66,658  
 Time percentage on project: 1%
- 6/1/2006-5/31/2008 PI. Yu Zhang  
 Title: Damage Resistant All-Ceramic Dental Restorations with Graded Structure  
 Grant Number: New York University Research Challenge Fund  
 Total Award: \$9,000  
 Time percentage on project: N/A
- Current  
 5/1/2017-3/31/2022 PI. Yu Zhang  
 Title: Toward Novel Translucent and Strong Nanostructured Dental Zirconia  
 Grant Number: NIH/NIDCR R01 DE026772  
 Total Award: \$1,843,287  
 Time percentage on project: 25%
- 8/1/2017-7/31/2022 PIs. Yu Zhang and Jeongho Kim  
 Title: Viscoelastic Modeling Aided Experimental Optimization toward Fracture-Resistant Porcelain-Veneered Zirconia and Lithium Disilicate Restorations  
 Grant Number: NIH/NIDCR R01 DE026279  
 Total Award: \$1,960,782  
 Time percentage on project: 22%
- 9/1/2019-8/31/2020 PI. Yu Zhang  
 Title: Optimizing the Fracture Resistance of Ceramic-Polymer Hybrid Materials using Cohesive Finite Elements and Experimental Validation  
 Grant Number: Vita Zahnfabrik  
 Total Award: \$9,685  
 Time percentage on project: 1%

Press Releases:

Dentistry Today, October 2, 2017

<http://www.dentistrytoday.com/news/industrynews/item/2454-3-7-million-grant-to-develop-new-materials-and-prostheses>

NYU News, September 29, 2017

<https://www.nyu.edu/about/news-publications/news/2017/september/nyu-college-of-dentistrys-yu-zhang-awarded-nearly--3-7-million-b.html>

NYU College of Dentistry News, October 4, 2012

[NYU Dental Researcher Awarded \\$1.9 Million NIH Grant to Test New Glass-Zirconia Composite Crown](#)

ADA (American Dental Association) News, April 7, 2008

[Inspiring participation in science and health care](#)

[High school student presents research findings at AADR annual meeting](#)

[Mentor seeks to encourage minority student awareness in health care](#)

NYU College of Dentistry News, August, 2007

[NYU College of Dentistry Awarded \\$1.2 Million NIH Grant to Develop Fracture-Resistant Zirconia Restorations](#)

New York University, August 14, 2007

[College of Dentistry Awarded \\$750,000 NIH Grant to Develop Fracture-Resistant Crowns and Bridges](#)