

CURRICULUM VITAE

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Education:

2011 Doctorate (Ph.D.), Biological Sciences in Dental Medicine, Harvard University, USA
2011 Masters in Medical Sciences (M.M.Sc.), Harvard School of Dental Medicine, USA
2011 Certificate, Leder Human Biology & Translational Medicine, Harvard Medical School, USA
2011 Certificate, Oral and Maxillofacial Pathology, Harvard School of Dental Medicine, USA
2007 Certificate, Clinical Research Curriculum, National Institutes of Health, USA
2001 Masters in Dental Surgery (M.D.S), Rajiv Gandhi University of Health Sciences, India
1999 Bachelor in Dental Surgery (B.D.S), Dharwad University, India

Employment History:

2016-current *Adjunct*, Assistant Professor, Biomedical Engineering, University at Buffalo, USA
2015-current Assistant Professor, Oral Biology, University at Buffalo, USA
2012-2015 Assistant Clinical Investigator, NIDCR, NIH, Bethesda, USA
2011-2012 Research Associate, Harvard University, Cambridge, USA
2003-2006 Fogarty Visiting Fellow, National Cancer Institute, NIH, Bethesda, USA
2001-2003 Postdoctoral Fellow, Indian Institute of Sciences, Bangalore, India

Professional Boards and Fellowships

2017 Fellow, American Society of Lasers in Surgery and Medicine
2014 National Board of Dental Examiners - II (USA)
2013 National Board of Dental Examiners - I (USA)
2010 Royal College of Pathologist (Part I Fellowship): Associate (UK)
2001 Oral and Maxillofacial Pathology: Board certified (India)
1999 General Dentistry: Board certified (India)

Honors and Awards

2016 Horace Furumoto Young Investigator Award
2015 Best laser research paper, Laser Annals
2011 Eugene Siedner Scholar, Academy of Laser Dentistry
2011 Pulp Biology & Regeneration Award, American Academy of Dental Research
2011 Best review paper, Oral Diseases journal
2009 Wound Biotechnology Foundation Award, Wound Healing Society
2007 Young investigators Award, Wound Healing Society
2007 Harvard Presidential Scholar
2006 NIH Merit Award (*Intramural*)
2006 NCI Director's Innovation Award
2001 Best Paper and Poster award, Indian Academy of Oral Pathologists
2000 Best Poster award, Indian Academy of Oral Pathologists

Membership in Professional Societies

American Dental Education Association (ADEA)
 American Society for Lasers in Medicine (ASLMS)
 Indian Academy of Oral and Maxillofacial Pathologists (IAOMP)
 International and American Association of Dental Research (IADR & AADR)
 International society for Optics & Photonics (SPIE)
 North American Association of Light Therapy (NAALT)
 Optical Society of America (OSA)
 Society for Biomaterials (SFB)
 World Association of Laser Therapy (WALT)
 Wound Healing Society (WHS)

Editorial Responsibilities (*select*)

2017-current Editorial Board, Annals of Translational Medicine
 2016-current Associate Editor, Lasers in Medical Sciences
 2015-current Editorial Board, Oral Diseases
 2014-current Editorial Board, Photomedicine and Laser Surgery 2018: Associate Editor
 2013-current Academic Editor, PeerJ.
 2013-current Editorial Board, Journal of Periodontal and Implant Sciences

Ad-hoc Reviewer (*select*)

- *Photonics and optics (Lasers)*: Biomedical Optics Express, Journal of Biophotonics, Journal of Biomedical Optics, Photochemistry and Photobiology, Photodiagnosis and Photodynamic Therapy, Photomedicine and Laser Surgery, Journal of Photochemistry and Photobiology.
- *Cell-Molecular biology*: European Cells and Materials, Journal of Cellular Biochemistry, PLoS One, Connective Tissue Research, Journal of Inflammation, Mediators of Inflammation, Proceedings of National Academy of Sciences, Scientific Reports.
- *Pathology/Dentistry/Medicine/Veterinary*: Acta Cytologica, American Journal of Nephrology, Archives of Oral Biology, Biotechnic and Histochemistry, International Journal of Oral and Maxillofacial Pathology, Journal of Dental Research, Journal of Dermatological Sciences, Journal of Laser Dentistry, Lasers in Medical Sciences, Lasers in Surgery and Medicine, Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontology, Radiation Oncology, The Cleft Palate-Craniofacial Journal, Journal Periodontology, Journal of Alternative and Complementary Care, Lab Animals, Oral Diseases, Odontology,
- *Biomaterials & Tissue Engineering*: Tissue Engineering, Acta Biomaterials, Journal of Biomedical Materials Research-B, Biomaterials, Journal of Colloid Interface Sciences,
- *Wound Healing and Tissue Regeneration*: Advanced Wound Care, Wound Repair and Regeneration.

Inventions and Patents

- Laser dental treatment systems PCT/US2012/27674 WO2012122081 A2
- Temporal & spatially restricted morphogen fields PCT/US2011/042051 WO2011163669 A3
- Laser-actuated therapeutic nanoparticles PCT/US2013/030493 WO2013148158 A1
- *In situ* antigen generating cancer vaccine PCT/US2012/40687 CA2838125 A1

Service Activities

2018 *Program Chair*, Symposium on Advanced Wound Care
 2016-present *President-Elect*, World Association for Laser Therapy
 2016-present *Executive Committee*, PBM technical group, Optical Society America

2015-present *Board of Trustees*, Association for Assessment & Accreditation of Laboratory Animal Care International

2013-present *Co-Chair*, Mechanisms of light therapy, International society for Optics & Photonics

2017 *Ad-hoc* reviewer, Ontario, Ministry of Research, Canada

2017 *Ad-hoc* reviewer, INSERM, France

2017 *Ad-hoc* reviewer, Congressionally Directed Medical Research Program

2017-2018 *Chair*, Research Committee, American Society of Lasers and Medicine

2016 *Ad-hoc* reviewer, Wellcome Trust-DBT, India

2015-2018 *Chair*, Awards committee, Wound Healing Society

2014-2016 *President*, North American Association for Photobiomodulation Therapy

2014-2016 *Executive Board*, World Association for Laser Therapy

2014-2016 *Chair*, University and Academia committee, Academy of Laser Dentistry

2014-2016 *Chair*, Lasers in Dentistry, American Society of Lasers and Medicine.

2014 Member, Industry Advisory Council, American Society of Lasers and Medicine.

2014 Member, Strategic planning committee, American Society of Lasers and Medicine.

2012-2014 *President-elect*, North American Association for Light Therapy

2011-2015 Member, Awards committee, Wound Healing Society

2013-2015 Member, Science and Research committee, Academy of Laser Dentistry

2014, 2015 *Co-Chair*, Optical Society of America, Incubator on LLLT.

2014-2017 *Ad-hoc* reviewer, University of Wisconsin-Madison, USA

2014 *Chair*, Lasers in Dentistry, American Association for Dental Education

2013 *Chair-elect*, Lasers in Dentistry, American Association for Dental Education

2013 *Doctoral thesis* reviewer, Indian Institute of Sciences, India

2013 *Ad-hoc* reviewer, Biomaterials & Biointerfaces study section, DER, NIH, USA

2013 *Ad-hoc* reviewer, Air Force Office of Scientific Research, DoD, USA

2013 Science career panel, Community college day, NIH

2013 *Ad-hoc* Reviewer, National Graduate Student Research Conference, NIH

2013 Research career panel, American Indian Student Research Conference, NIH

2013 NIDCR Dental research career panel, DIR, NIH

2013 Committee member, Summer Dental Student Award, DIR, NIH

2013-2015 *Ad-hoc* reviewer, National Research Foundation, South Africa

2011-2018 Member, Education & Program committee, Wound Healing Society

2010-2014 *Chair*, Science committee, North American Association for Light Therapy

2010-2012 Board of Directors, North American Association for Light Therapy

2010-2013 Member, Constitution Committee, American Academy of Dental Research

2009-2010 Member, Committee on Diversity and Community Outreach, American Academy of Oral and Maxillofacial Pathologists

2005 Fellows Committee, Center for Cancer Research, NCI, NIH

Grant Funding

- American Society of Lasers in Medicine,
Research Pilot grant PBM in Traumatic Brain Injury FY 2016-17
- University of Buffalo, School of Dental Medicine, Oral Biology
Start-up funds PBM in Craniofacial Regeneration FY 2015-18
- National Institute of Dental and Craniofacial Research, Intramural Research Program
1-ZIADE000741 PBM in Wound Healing FY 2012-15
- National Institute of Dental and Craniofacial Research
TBA Effects of PBM therapy on Oral cancers FY 2018-20

Teaching / Courses (*University at Buffalo*)

- *Fundamentals of Oral Biology* - Craniofacial and tooth development, mineralized tissue formation, oral diseases, biofilms, halitosis, clinical strategies for prevention and treatment. Courses: ORB 825, ORB 826, ODS 911, PER 603
- *Tissue Engineering and Biomaterials* – Biomaterials and biomedical technologies. Courses: ORB 500, OSU 510.
- *Lasers in Dentistry* – Fundamentals of biophotonics and clinical applications. Courses: OSU864, OSU865, IDP, DACE and CDE programs.

Invited Presentations

- 2018 United States Congressional briefing on Photobiomodulation Therapy, Washington DC
- 2018 World Association of Photobiomodulation Therapy, Nice, France
- 2018 North American Association of Photobiomodulation Therapy, Detroit MI
- 2018 Symposium on Advanced Wound Care, Charlotte
- 2018 West Virginia University, Morgantown
- 2018 American Laser Study Club, Orlando
- 2018 International Society for Laser Applications, Las Vegas
- 2018 National Center for Biological Sciences, Bangaluru, India
- 2018 Distinguished lecture series, KAHER, Belgaum, India
- 2018 KLE School of Dental Medicine, Belgaum, India
- 2018 Cell Death and Cytotoxicity, Lucknow, India
- 2018 Cell Death in Cancer, JNU, Delhi, India
- 2018 The Global Innovation Forum, Vishakapatnam, India
- 2018 Photonics Marketplace, San Francisco, CA
- 2018 Society of Photonics and Optics, San Francisco, CA
- 2017 Sumandeep University, Vadodhara, Gujrat, India
- 2017 International Society for Laser Applications, Bangkok, Thailand
- 2017 International Endodontics Regeneration symposium, Hartford, CT
- 2017 International Society for Laser Applications, Beverungen, Germany
- 2017 World Federation of Laser Dentistry, Tehran Iran (*online*)
- 2017 Wound Healing symposium, UK (*online*)
- 2017 Society of Photonics and Optics, San Francisco, CA
- 2017 Pharmacology and Toxicology Seminar series, Buffalo
- 2017 University at Connecticut, School of Dental medicine, Connecticut.
- 2016 Inflammation and Systems Biology, Harvard Medical School, Boston
- 2016 World Association for Laser Therapy, Maresias, Brazil
- 2016 Lasers Brazil X, Sao Paulo, Brazil
- 2016 Lasers in Dentistry, UNINOVE, Sao Paulo, Brazil
- 2016 Regional CReO, CICESE, Ensanada, Mexico
- 2016 Rutgers School of Dental Medicine, New Jersey
- 2016 VK KLE's Society School of Dental Medicine, Belgaum, India
- 2016 Maratha Mandal Dental School, Belgaum, India
- 2016 Stem Cell Institute, Healthcare Global Enterprise Hospital, Bangalore
- 2016 Global Summit on Therapeutic Lasers, Bangalore, India
- 2016 Lasers in Dentistry workshop, Mumbai, India
- 2016 Multinational Association for Supportive Care in Cancer, Adelaide, Australia
- 2016 Royal Children's Hospital, Melbourne, Australia
- 2016 Sydney Adventist Hospital, Sydney, Australia

2016 Australian Medical Laser Association, Sydney, Australia
2016 Menzies Health Institute Queensland, Griffith University, Gold Coast, Australia
2016 Sir John Walsh Research Institute, Otago University, Dunedin, New Zealand
2016 Lester Wolfe Workshop, Harvard-MIT, Boston
2016 American Society for Lasers in Surgery and Medicine, Boston
2016 Seoul National University Dental Hospital, Seoul, South Korea.
2016 Sungkyunkwan University, Suwon, South Korea.
2016 Korean Medical Association for Laser Therapy, Seoul, South Korea.
2016 Society of Photonics and Optics, San Francisco, CA
2016 American Association for Dental Research (Buffalo chapter), Buffalo.
2015 Women and Children Hospital, Buffalo
2015 PBM Symposium, Lumithera, WA
2015 Optical Society of America, Washington DC
2015 American Society for Lasers in Surgery and Medicine, FL
2015 Dose Response Society, MA
2015 Omicron Kappa Upsilon, Howard Dental Honor Society, Washington DC
2015 South American Dental Association, Durban, South Africa
2015 University at Buffalo, Pediatric Dentistry, NY
2015 Society of Photonics and Optics, San Francisco, CA
2015 Academy of Laser Dentistry, Palm Springs, CA
2014 North American Association of Light Therapy, Arlington VA
2014 Optical Society of America, DC
2014 Virginia Commonwealth University, VA
2014 Chevy Chase Endodontic study club, MD
2014 University at Buffalo, School of Dentistry, NY
2014 Marquette University School of Dentistry, WI
2014 American Society for Lasers in Medicine, AZ
2014 Academy of Laser Dentistry, Scottsdale, AZ.
2014 TGF-beta superfamily, NIH Special Interest Group, Bethesda, MD
2014 Matrix Biology, NIH Special Interest Group, Bethesda, MD
2013 Hancock Symposium, Howard University, Washington DC
2013 Symposium on Advanced Wound Care, Denver, CO
2013 American Society of Lasers in Medicine, Boston, MA
2013 American Dental Education Association, Seattle, WA
2013 North American Association of Light Therapy, Palm Beach, FL
2013 Bushnell Lab, NCCAM, NIH, Bethesda, MD.
2012 Lab of Cancer Biology and Genetics, NCI, NIH, Bethesda, MD.
2012 Lab of Regenerative Biology, NIDDK, NIH, Bethesda, MD.
2012 Tissue Engineering and Regenerative Medicine, Columbus, OH.
2012 Regenerative Tissue Engineering and Transplantation: Keystone, Breckinridge, CO.
2012 Academy of Laser Dentistry, Scottsdale, AZ.
2011 New England Society of Microscopy, Boston, MA.
2011 Wyss Institute Annual Retreat, Boston, MA.
2011 Case Western Reserve, School of Dentistry, Cleveland, OH.
2011 School of Dentistry, National University of Singapore, Singapore.
2011 National Institute of Dental and Craniofacial Research, Bethesda, MD.
2009 American Society of Photobiology, Rochester, NY.
2009 North American Association of Laser Therapy, San Francisco, CA.

- 2008 Food and Drug Administration, Silver Spring, MD.
- 2008 Harvard School of Dental Medicine, Alumni meet, Boston, MA.
- 2008 American Society of Photobiology, San Francisco, CA.
- 2007 Wellman Center for Photomedicine, Massachusetts General Hospital, Boston, MD.
- 2007 Engineering Conferences International, Tomar, Portugal.
- 2007 Pediatric Gastroenterology and Nutrition Unit, Massachusetts General Hospital, Boston, MD.
- 2006 Indian Institute of Science, Bangalore, India.
- 2006 Postgraduate Student Convention of Oral and Maxillofacial Pathology, K.I.D.S, Belgaum.
- 2004 Indian Academy of Oral and Maxillofacial Pathologist, Calicut, India
- 2004 Indian Institute of Science, Bangalore, India.
- 2004 Government Dental College, Tiruvananthapuram, India
- 2004 Maratha Mandai Dental College, Belgaum, India
- 2004 K.L.E.S' s Institute of Dental Sciences, Belgaum, India.
- 2004 R.V. Dental Sciences Institute, Bangalore, India.

Symposia / Conference Organizer:

- 2018 Lasers in Dentistry, CDE, University at Buffalo
- 2017 Primer on Lasers in Dentistry, CDE, University at Buffalo
- 2015 Course Director, Lasers in Dentistry, American Society of Lasers in Medicine,
- 2014 Course Director, Photobiomodulation, American Society of Lasers in Medicine,
- 2012 Collaborative research meeting, West Virginia University and NIDCR, NIH, Bethesda
- 2010 Science Chair, Annual conference, North American Associations for Light Therapy.
- 2009 Co-Chair, symposium on 'Pathology for Graduate students- the hidden science' Harvard Integrated Life Sciences.
- 2008 Co-Chair, symposium on 'Frontiers in Translational Research', Harvard Integrated Life Sciences, Broad Institute and Leder Human Biology & Translational Medicine.
- 2007 Workshop of 'Publishing in the new millennium', Harvard Integrated Life Sciences and Harvard Medical School.
- 2007 Co-Chair, symposium, 'Palingenesia -Wound Healing and Regeneration', Harvard Integrated Life Sciences, Leder Medical Sciences Program and Harvard Medical School.

Trainees, Post-Doctoral / Residents (Awards)

- 2018 Adrian Ong, Otolaryngology Resident, University at Buffalo
- 2017 Rodrigo Mosca, University at Sao Paulo, Brazil (*visiting*) (*ALD & ASLMS 2018*)
- 2016 Sasikumar Ponnusammy, Postdoctoral Fellow, University at Buffalo
- 2016 Erica Lavere, Pediatric dentistry resident, SDM, University at Buffalo
- 2016 Saeed Ur Rahman, Postdoctoral Fellow, University at Buffalo (*SDM & RPCI 2017, ASLMS 2018*)
- 2013 Imran Khan, Postdoctoral Fellow, CRCU, NIDCR (*FARE 2014*)
- 2004 Miraj Khan Shah, Surgical resident, LCRC, NCI
- 2004 Stephen Yoo, Howard Hughes fellow, LCRC, NCI

Trainees, Graduate

- 2017 Karishma Desai, KLE VK Institute of Dental Sciences, Belgaum, India
- 2014 Deepa Mane, KLE VK Institute of Dental Sciences, Belgaum, India

Trainees, Dental / Medical

- 2018 Omar Albasha, Summer dental research program, University at Buffalo
- 2016 Malvika Nagrath, Volunteer, University at Buffalo
- 2016 Alexander Sikora, Summer dental research program, University at Buffalo

2015 Mohit Garg, Special Volunteer, CRCU, NIDCR
 2013 Heather Lenker, Summer Dental Research fellow, CRCU, NIDCR
 2011 Megha Jain, Dental researcher, HSEAS
 2010 Kyungsup Shin, Dental researcher, Harvard School of Dental Medicine
 2009 Gursimran Sidhu, Dental researcher, HSEAS

Trainees, Post-Bachelors / Masters (*Awards*)

2018 Scott Sotherden, University at Buffalo
 2017 Alec Starostik, Masters, University at Buffalo
 2017 Govindool Reddy, Hong Kong University (*Visiting*)
 2017 Mahmoud Tallab, Masters, University at Buffalo
 2017 Fatma Alkasimmi, Masters, Roswell Park Cancer Institute
 2016 Benjamin Parker, Masters, University at Buffalo
 2016 Mahek Pipalia, Masters, University at Buffalo
 2015 Carlos Romero, Masters, University at Buffalo
 2014 Karl Engel, Post-baccalaureate fellow, CRCU, NIDCR (*FARE 2015*)
 2013 Monica Ashok, Post-baccalaureate fellow, CRCU, NIDCR
 2013 Elieza Tang, Post-baccalaureate fellow, CRCU, NIDCR (*WALT 2014, ALD 2015*)
 2012 Suneetha Gottukamukala, Special volunteer , CRCU, NIDCR
 2012 Theresa Raimondo, Graduate research, HSEAS
 2012 Pichet Adstamongkonkul, Graduate research, HSEAS

Trainees, Pre-Bachelors (*Awards, *Honors Thesis-Research*)

2018 Akhila Kiran, BS-DDS program, University at Buffalo
 2016, 2018 Daniels Sims, CLIMB-iSEED, University at Buffalo
 2018 Brad Bailey, University at Buffalo
 2018 Katherine Gutierrez, University at Buffalo
 2018 Leon Butcher, University at Buffalo
 2017 Oleg Borisiuk, University at Buffalo
 2017 Anthony Martino, University at Buffalo
 2017 Nicholas Young*, University at Buffalo
 2016 Reality Suarez, SURE, University at Buffalo
 2016 Toneia Washington, CLIMB-iSEED, University at Buffalo
 2016 Daniels Sims, CLIMB-iSEED, University at Buffalo
 2016 Lindsey Carlsen*, University at Buffalo
 2016 Zoe Herrick*, University at Buffalo
 2016 Jacob Graca*, BS-DDS program, University at Buffalo
 2016 Ahmad Salah, CLIMB-iSEED, University at Buffalo
 2016 Alexis Marth, Canisius College
 2015 Ming Xia Lian, University at Buffalo
 2015 Rosaura Romero, University at Buffalo
 2014 Brittany Bailey, Special Volunteer, CRCU, NIDCR
 2013 Abhinav Seetharaman, Special Volunteer, CRCU, NIDCR
 2012 George Huang*, *Honors Thesis*, Harvard College (*PRISE, Herschel Smith*)
 2012 Eason Hahm*, *Honors Thesis*, Harvard College
 2011 Or Gadish*, *Senior Design Thesis*, HSEAS, Harvard College (*Hoopes*)
 2010 Cara Brown, summer research program, HSEAS.
 2010 Kelly Holt, Harvard College
 2010 Tristan Hunt*, *Honors Thesis*, Notre Dame University

- 2009 Sonia Pernia, Harvard College
2009 Jose Alvarez, Summer research program, HSEAS.
2009 Zenith Acosta Torres, Summer research program, HSEAS.
2008 Juani Martinex Felix, Harvard College
2008 Kenneth Porreno, Harvard College
2008 Voranaddha Vacharathit, Harvard College
2007 Nathaly Jones, High school students outreach program, Harvard University
2005 Shawheen Shomolo, Honors student program, NCI.

Bibliography

Research Articles (*Peer-reviewed, Pubmed Indexed*)

1. Nagrath, M*, Sikora, A*, Graca, J, Chinnici J, Rahman SU, Reddy SG, Ponnusamy S, Maddi A, Arany PR. Functionalized Prosthetic Interfaces using 3D Printing: Generating Infection-Neutralizing Prosthesis for Dentistry. *Mat Comm* 2018, 15, 114-119. PMID: *in process*
2. Fekrazad R, Sarrafzadeh A, Kalhori KAM, Khan I, Arany PR and Giudellino A. Improved Wound Remodeling correlates with modulated TGF-beta expression in Skin Diabetic Wounds following Combined Red and Infrared Photobiomodulation Treatments. *J Photochem Photobio* 2018 PMID: 29457837
3. Brandao TB, Faria, KM, Ribeiro AC, Rivera C, Salvajoli JV, Lopes MA, Epstein J, Arany PR, de Castro Jr G, Migliorati CA, Santos-Silva AR. Outcomes of locally advanced oral squamous cell carcinoma patients treated with Photobiomodulation therapy for the prevention of oral mucositis. *J Supp Car Cancer* 2018, EPUB PMID: 29423682
4. Epstein JB, Raber-Durlacher JE, Huysmans MC, Schoordijk MCE, Cheng JE, Bensadoun RJ, Arany PR. Photobiomodulation Therapy Alleviates Tissue Fibroses Associated with Chronic Graft-Versus-Host Disease: Two Case Reports and Putative Anti-Fibrotic Roles of TGF- β . *Photomed Laser Surg.* 2017 EPUB doi: 10.1089/pho.2017.4297. PMID: 29053051
5. Guo M, Pegoraro AF, Mao AS, Zhou EH, Arany P, Han Y, Burnette DT, Jensen M, Kasza KE, Moore JR, MacKintosh FC, Fredberg JJ, Mooney DJ, Lippincott-Schwartz J and Weitz DA. Cell volume change through water efflux impacts cell stiffness and stem cell fate. *Proceedings of National Academy of Sciences* 2017, 114(41): E8618-E8627 PMID: 28973866
6. Cezar C, Arany P, Vermillion S, Vandeburgh HH and Mooney DJ. Timed Delivery of Therapy enhances functional muscle regeneration. *Adv Health Mat* 2017 EPUB PMID: 28703489
7. Khan I and Arany PR. Photobiomodulation therapy promotes expansion of epithelial stem cells. *Photomed Laser Surg* 2016, 34, 11, 550-555. PMID: 27841965
8. Engel K, Khan I, Arany PR. Redox status determines cell lineage responses to Photobiomodulation therapy. *J Biophotonics* 2016, 9, 11-12, 1148-1156. PMID: 27392170
9. Tang E, Khan I, Andreana S, Arany PR. Laser-activated TGF- β 1 induces Human β Defensin-2: implications for laser treatments in Periodontitis and Peri-implantitis. *J Perio Res* 2016, 52(3):360-367 PMID: 27396269
10. Khan I and Arany PR. Dosimetry for Photobiomodulation therapy: Response to Sommers et al. *Ann Transl Med* 2016, 4, 10, 208. PMID: 27294101
11. Hall BE, Zhang L, Sun ZJ, Utreras E, Prochazkova M, Cho A, Terse A, Arany P, Dolan JC, Schmidt BL and Kulkarni AB. Conditional TNF- α Overexpression in the tooth and alveolar bone results in painful pulpitis and osteitis. *J Dent Res* 2015, 1-8 PMID: 26503912
12. Khan I, Tang E, Arany PR. ATF-4 mediated ER stress orchestrated near Infrared laser phototoxicity. *Sci Rep* 2015, 1, 5, 10581, 1-14. PMID: 26030745

13. Fekrazad R, Miromoezzi A, Kalhori KA and Arany P. The effect of red, green and blue lasers on healing of oral wounds in diabetic rats. *J Photochem Photobiol B* 2015, 1; 148; 242-245. PMID:25981185
14. Huang GX*, Arany PR*, Mooney DJ. Multi-layer PLG scaffolds for Directed Differentiation of Juxtaposed cartilage and Bone. *Tissue Eng Part A* 2015, 21, 15-16, 2228-2240 (*Equal contributions) PMID:25923238
15. Arany PR*, Huang GX*, Gadish O, Feliz J, Weaver JC, Kim J, Yuen WW and Mooney DJ. Multi-lineage MSC differentiation via Engineered Morphogen Fields. *Journal Dent Res* 2014, 93, 12, 1250-1257. (*Equal contributions) PMID:25143513
16. Arany PR, Cho A, Hunt TD, Sidhu G, Shin K, Hahm E, Huang GX, Weaver J, Chen AC, Padwa BL, Hamblin MR, Barcellos-Hoff MH, Kulkarni AB and Mooney DJ. Photoactivation of endogenous latent transforming growth factor- β 1 directs dental stem cell differentiation for regeneration. *Science Transl Med* 2014, 6, 238,1-11 PMID:24871130
17. Cho A, Haruyama N, Hall B, Danton MJ, Zhang L, Arany P, Mooney DJ, Harichane Y, Goldberg M, Gibson CW and Kulkarni AB TGF- β regulates enamel mineralization and maturation through KLK4 expression *PLoS One* 2013; 8; 11:e82267 PMID:24278477
18. Hall BE, Wankhade UD, Konkell JE, Cherukuri K, Nagineni CN, Flanders KC, Arany PR, Chen W, Rane SG and Kulkarni AB TGF- β 3 knock-in ameliorates inflammation due to TGF- β 1 deficiency while promoting glucose tolerance *J. Biol. Chem.*2013; 288 (44): 32074-32092 PMID:24056369
19. Darnell MC, Sun JY, Mehta M, Johnson C, Arany PR, Suo Z, Mooney DJ. Performance and biocompatibility of extremely tough alginate/polyacrylamide hydrogels. *Biomaterials* 2013; 34 (33):8042-8048 PMID:23896005
20. Bencherif SA, Sands WR, Bhatta D, Arany P, Verbeke CS, Edwards DA and Mooney DJ. Injectable preformed scaffolds with shape-memory properties. *Proceedings of National Academy of Sciences* 2012, 27; 109; 48; 19590-19595 PMID:23150549
21. Hassanein AH, Clune JE, Mulliken JB, Arany PR, Rogers GF, Kulungowski AM, Greene AK. Effect of calvarial burring on resorption of onlay cranial bone graft. *J Craniofac Surg.* 2012, 23; 5; 1495-1498. PMID:22976644
22. Hassanein AH, Arany PR, Couto RA, Clune JE, Glowacki J, Rogers GF, Mulliken JB, Greene AK. Cranial particulate bone graft ossifies calvarial defects by osteogenesis. *Plast Reconstr Surg.* 2012, May; 129 (5): 796e-802e. PMID:22544110
23. Yuen WW, Du NR, Shvartsman D, Arany PR, Lam H, Mooney DJ. Statistical platform to discern spatial and temporal coordination of endothelial sprouting. *Integr Biol* 2012, 1; 4; 3; 292-300. PMID:22318325
24. Kim WS, Mooney D, Arany PR, Lee K, Huebsch N, Kim J. Adipose Tissue Engineering using injectable, oxidized alginate hydrogels. *Tissue Eng Part A* 2012, 18 (7-8): 737-743. PMID:22011105
25. Hassanein AH, Greene AK, Arany PR and Padwa BL. Intraoperative cooling of Iliac bone graft: An experimental evaluation of cell viability. *J Oral Maxillofac Surg* 2012, 70(7): 1633-5. PMID:2197871
26. Chen AC*, Arany PR*, Tompkinson EM, Saleem T, Mooney DJ, Yull FE, Blackwell TS, Hamblin MR. Low level light therapy activates NF-kB via generation of reactive oxygen species in mouse embryonic fibroblasts. *PLOS One* 2011;6(7):e22453 (*Equal contributions) PMID:21814580

27. Clune JE, Mulliken JB, Glowacki J, Arany PR, Rogers GF, Kulungowski AM and Greene AK. Autologous Cranial particulate bone graft for onlay cranioplasty - An experimental evaluation. *Journal of Craniofacial Surgery* 2011; 22; 1; 319-323. PMID:21239926
28. Huesbsch N, Arany PR, Mao A, Rivera-Feliciano J and Mooney DJ. Extracellular Matrix Mechanics Affect Stem Cell Lineage in 3D by Controlling Integrin Binding. *Nature Materials* 2010; 9; 518-526. PMID:20418863
29. Cao L, Arany PR, Kim J, Rivera-Feliciano J, Wang YS, Zhiheng He, Rask-Madsen C, King GL and Mooney DJ. Modulating Notch Signaling to Enhance Neovascularization and Reperfusion in Diabetic Mice *Biomaterials* 2010; 31; 34; 9048-56. PMID:20800279
30. Clune JE, Mulliken JB, Glowacki J, Rogers GF, Arany PR, Kulungowski AM and Greene AK. Inlay Cranioplasty - An experimental comparison of particulate versus bone dust. *Plastic and Reconstructive Surgery* 2010; 126, 4, 1311-1319. PMID: 20885252
31. Cao L, Arany PR, Wang YS and Mooney OJ. Promoting Angiogenesis via Manipulation of VEGF responsiveness with Notch Signaling. *Biomaterials* 2009; 30; 25; 4085-4093. PMID:19481797
32. Flanders KC, Ho BM, Arany PR, Stuelten C, Mimura M, Paterniti MO, Sowers A, Mitchell JB and Roberts AB. Absence of Smad3 Induces Neutrophil Migration following Cutaneous irradiation: Possible Contribution to Subsequent Radioprotection. *Am J Pathol* 2008; 173; 1; 68-76 PMID:18502822
33. Arany PR, Flanders KC, DeGraff W, Cook J, Mitchell JB and Roberts AB. Absence of Smad3 confers radioprotection through modulation of ERK MAPK in primary dermal fibroblasts. *Journal of Dermatological Science* 2007; 48; 1; 35-42. PMID:17624738
34. Hudson TS, Hartle O, Hurstings S, Nunez N, Perkin S, Young S, Arany PR, Green JE. Inhibition of Prostate Cancer Growth by Resveratrol and Muscadine Grape Skin Extract Through Distinct Mechanisms. *Cancer Research* 2007; 67; 17; 8396-8405. PMID:17804756
35. Arany PR, Nayak RS, Hallikerimath S, Limaye AM, Kale AD and Kondaiah P. Activation of Latent TGF- β 1 by low power laser in vitro correlates with increased TGF- β 1 levels in laser enhanced oral wound healing. *Wound Repair and Regeneration* 2007; 15; 6; 866-874. PMID:18028135
36. Arany PR, Rane S and Roberts AB. Smad3 deficiency inhibits *v-Ras* induced transformation by suppression of JNK MAPK and increased farnesyl transferase inhibition. *Oncogene* 2008; 27; 17; 2507-2012. PMID:17952112
37. Arany PR, Flanders KC, Kobayashi T, Kuo CK, Stuelten CH, Desai K, Tuan R, Rennard SI and Roberts AB. Smad3 deficiency alters key structural elements of the extracellular matrix and the mechanotransduction of wound closure. *Proceedings of National Academy of Sciences* 2006, 103; 24; 9250-9255. PMID:16754864
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Reviews and Editorials (Peer-reviewed, Pubmed Indexed)

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