



Grayson Marshall, JR, DDS, PhD, MPH



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Education and Training

Virginia Tech	BS	Metallurgical Engineering
Northwestern University	DDS	Dental School
Northwestern University	PhD	Graduate School
Northwestern University	Post-Doctoral Scholar	Biological Materials
University of Melbourne (Australia)	Visiting Fellow	Prosthodontics
University of California Berkeley	Master of Public Health	Epidemiology
Malmö University (Sweden)	Dr. of Odontology. (h.c.)	Odontology

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Awards and Honors

Academy of Dental Materials	2018 - now	ADM Marshalls Post-Doctoral Award in honor of Grayson and Sally Marshall
American Association for Dental Research	2018	AADR Irwin D. Mandel Distinguished Mentoring Award
International Association for Dental Research	2017	IADR Innovation in Oral Care Award
American Association for Dental Research	2016	Fellow (Inaugural class selection)
Northern California Section, American College of Dentists	2013	Distinguished Faculty Award
Malmö University, Sweden	2012	Dr. of Odontology (honorary)
Academy of Dental Materials	2009	Founder's Award
Inter. Assoc. for Dental Research	2007	Wilmer Souder Distinguished Scientist
Intern. College of Dentists	1996	Fellow
Am. College of Dentists	1995	Fellow

Grayson's Networks

Concepts

Derived automatically from this person's publications.

- [Acid Etching, Dental](#)
- [Dental Bonding](#)
- [Composite Resins](#)
- [Dentin](#)
- [Dentin-Bonding Agents](#)
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Co-Authors

People in Profiles who have published with this person.

- [Pinzon, Lilliam UCSF](#)
- [Saeki, Kuniko UCSF](#)
- [Habelitz, Stefan UCSF](#)
- [Marshall, Sally UCSF](#)
- [Ho, Sunita UCSF](#)
- >> [See all \(29\) people](#)

Related Authors

People who share related concepts with this person.

- [Magne, Pascal USC](#)
- [Duarte Junior, Sillas USC](#)
- [Fried, Daniel UCSF](#)
- [Marshall, Sally UCSF](#)
- [Ho, Sunita UCSF](#)
- >> [See all \(60\) people](#)

UCSF	1993 - 1994	Dental Research Lecturer Award
Academy of Dental Materials	1983	Fellow
Northwestern University	1981	Omicron Kappa Upsilon
Northwestern University	1971	Sigma Xi
Northwestern University	1966 - 1967	W. P. Murphy Fellow
Am. Assoc. for Advancement of Science	1966	Fellow, AAAS
Va. Tech.	1964	Sigma Gamma Epsilon
Va. Tech	1964	Alpha Sigma Mu

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Overview

Grayson W. Marshall, Jr. DDS, PhD, MPH, Dr. Odontology (h.c.)
University of California, San Francisco (UCSF)

Grayson W. Marshall, Jr received a BS degree in engineering at Virginia Tech , a DDS and PhD from Northwestern University, an MPH in epidemiology from U.C. Berkeley., and an honorary doctorate from Malmo University, Malmo, Sweden. Dr. Marshall was a post-doctoral scholar in biological materials at Northwestern and a visiting fellow at University of Melbourne, Victoria, Australia. He served on the Northwestern University faculty from 1973-87, before joining UCSF where he is currently Distinguished Professor Emeritus. He served as Chair of the Division of Biomaterials and Bioengineering 1988-2017, and Vice Chair, Dept. of Preventive and Restorative Dental Sciences from 2005-12. Dr. Marshall served as Director for the UCSF Comprehensive Oral Health Research Training (COHORT) Program (2001-08), the Dentist Scientist Award Program (1996-2004) and the Integrated DDS/PhD Program (1996-08); he was Chair of the Oral and Craniofacial Sciences (OCS) Graduate Group (2002-07), and is a member of several other UCSF graduate programs and groups. He holds fellowships in AAAS, the Academy of Dental Materials, American College of Dentists, the International College of Dentists, and the American Assoc. for Dental Research.. In 2007 he received the IADR Wilmer Souder Distinguished Scientist Award, and the ADM Founders Award. in 2009. He served as President of the American Association for Dental Research in 2009-10. Dr. Marshall received the Distinguished Faculty Award from the Northern California Section of the American College of Dentists (2013). In 2017 he received the IADR Innovation in Oral Care Award. He was selected for the AADR Irwin D. Mandel Distinguished Mentoring Award in 2018. Also in 2018, the ADM established the Marshalls Post-Doctoral Award in honor of Grayson and Sally Marshall's contributions to the field. The award recognizes the best post-doctoral presentation at the annual meeting of the Academy.

Our research group studies structure-mechanical property relationships of calcified tissues (bone, cementum, dentin, enamel). The main functions of these biological materials are mechanical, but much work is needed to understand how their unique and versatile properties are derived based on combinations of protein and mineral. We seek insight into biomineralization processes associated with these tissues during development, alterations resulting from disease, or repair and regeneration from clinical treatments. We also focus on natural interfaces between various calcified tissues and artificial interfaces between the tissues and artificial materials, e.g., dental restorations, implants, bioactive substrates. We use a wide variety of approaches including atomic force microscopy (AFM; and AFM-based nano-indentation) as well as other high resolution imaging methods and participate in wide ranging collaborations in the Bay Area. This work helps define alteration in properties and structure with hydration state, mineral level, and variations induced by disease and physiological processes. This information is needed to develop a composite structural model of calcified tissues and can assist in the development of bioinspired materials and tissue engineering (h index = 67).
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Research Activities and Funding

NIH/NIDCR P01DE009859 Role: Co-Investigator	Aug 1, 1991 - Jun 30, 2008
DENTIN CHARACTERIZATION AND MODIFICATION NIH/NIDCR P50DE009859 Role: Co-Investigator	Aug 1, 1991 - Jul 31, 1996
SMALL INSTRUMENTATION PROGRAM NIH/NIDCR S15DE009278 Role: Principal Investigator	Sep 1, 1989 - Aug 31, 1990
MICROSTRUCTURE VS DETERIORATION OF AMALGAM RESTORATIONS NIH/NIDCR R01DE006563 Role: Principal Investigator	Apr 1, 1983 - Aug 31, 1993

Websites

Publications


Publications listed below are automatically derived from MEDLINE/PubMed and other sources, which might result in incorrect or missing publications. Researchers can [login](#) to make corrections and additions, or [contact us for help](#).

List All | [Timeline](#)

1. **Marshall G**, Marshall SJ, Khajotia SS. Craig's Restorative Dental Materials, Eds: Sakaguchi RL, Ferracane J, Powers JM. 2018; 5-21.
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2. Hastings NB, Centore LS, Gansky SA, Finzen FC, White JM, Wong E, **Marshall G**, Chung L, Kalendarian E. A novel approach for effective integration of new faculty leadership. J Healthc Leadersh. 2017; 10:1-9. PMID: 29720883.
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4. Chien YC, Tao J, Saeki K, Chin AF, Lau JL, Chen CL, Zuckermann RN, Marshall SJ, **Marshall G**, De Yoreo JJ. Using biomimetic polymers in place of noncollagenous proteins to achieve functional remineralization of dentin tissues. ACS Biomater Sci Eng. 2017 Dec 11; 3(12):3469-3479. PMID: 29479561.
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5. Zuckerman RN, De Yoreo JJ, Chen C-L, Chien Y-C, **Marshall G**, Marshall SJ, Saeki K. Peptoids Useful For the Mineralization of Apatite. 2017.
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6. **Marshall G**, Marshall SJ, Nurrohman H, Saeki K, Habelitz S, Gower LB. Compositions for the Remineralization of Dentin. 2017.
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7. Saeki K, Chien YC, Nonomura G, Chin AF, Habelitz S, Gower LB, Marshall SJ, **Marshall G**. Recovery after PILP remineralization of dentin lesions created with two cariogenic acids. Arch Oral Biol. 2017 Oct; 82:194-202. PMID: 28647649.
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location, architecture, and mechanical cues. Arch Oral Biol. 2016 Mar; 63:82-92. PMID: 26741830; PMCID: PMC4761423 [Available on 03/01/17].




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12. Chien YC, Burwell AK, Saeki K, Fernandez-Martinez A, Pugach MK, Nonomura G, Habelitz S, Ho SP, Rapozo-Hilo M, Featherstone JD, Marshall SJ, **Marshall G**. Distinct decalcification process of dentin by different cariogenic organic acids: Kinetics, ultrastructure and mechanical properties. Arch Oral Biol. 2016 Mar; 63:93-105. PMID: 26745819.
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19. Saffarian Tousi N, Velten MF, Bishop TJ, Leong KK, Barkhordar NS, **Marshall G**, Loomer PM, Aswath PB, Varanasi VG. Combinatorial effect of Si⁴⁺, Ca²⁺, and Mg²⁺ released from bioactive glasses on osteoblast osteocalcin expression and biomineralization. Mater Sci Eng C Mater Biol Appl. 2013 Jul 01; 33(5):2757-65. PMID: 23623093.
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