

Curriculum vitae of *Dr. Purnima S Kumar*

*William and Mary K. Najjar Professor of Periodontology, University of Michigan*

2030A, Kellogg Building, 1011 N. University Avenue, Ann Arbor MI 48109

[kpurnima@umich.edu](mailto:kpurnima@umich.edu)

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## Personal Statement

As a dual-trained periodontist and microbial ecologist, I use my clinical skills and training in ‘-omics’ research to investigate the myriad ways in which the human microbiome can be harnessed to promote health. I firmly believe that oral health and systemic diseases are intricately connected, and that global health can only be achieved when physicians and dentists collaborate to identify at-risk individuals and deliver integrated care.

## Education and Degrees

### PhD in Molecular Microbiology 2005

The Ohio State University

### Advanced Training Program in Periodontics 2005

The Ohio State University

### Master of Dental Surgery (MDS) in Periodontology 1989

Madras Medical College, Chennai, India

### Bachelor of Dental Surgery (BDS) 1987

Annamalai University, Chidambaram, India

## Leadership Training

### Fellow, ELAM Program, 2019-2020

*Hedwig van Ameringen* Executive Leadership in Academic Medicine (ELAM) is a year-long fellowship program for the best and brightest women faculty in schools of medicine, dentistry and public health. The program is dedicated to developing the professional and personal skills required to lead and manage in today's complex health care environment with emphasis on unique challenges faced by women leaders.

## Academic Positions

Endowed Professor and Chair, Department of Periodontics and Oral Medicine, University of Michigan	2022-present
Professor of Periodontology, The Ohio State University	2006-2022
Faculty member, Infectious Disease Institute, The Ohio State University	2016-present
Faculty member, Center for Microbiome Studies, The Ohio State University	2016-present
Associate Professor of Periodontology, The Ohio State University	2012 – 2017
Assistant Professor of Periodontology, The Ohio State University	2006 – 2012
Faculty Member, Graduate School of Oral Biosciences, The Ohio State University	2006-present
Post-doctoral fellow in Oral Biology, The Ohio State University	2005 – 2006
Chief resident of Periodontology, The Ohio State University	2004 – 2005
Assistant Professor of Periodontics, Ajman University, United Arab Emirates	1998 – 2000
Consultant Periodontist, Federal Ministry of Health, United Arab Emirates	1992 - 1998
Assistant Professor of Periodontology, Raagas Dental College, India.	1991 – 1992

## Leadership

- **Chair, PhD program in Oral Biosciences**, The Ohio State University 2017-2022
  - Developed and led outreach initiatives to recruit students from diverse backgrounds from the undergraduate and high-school population of Central Ohio

- o Identified grant and scholarship opportunities to reduce financial burden for graduate students
- o Collaborated in Accreditation of the Graduate Program in 2021
- **Chair, CEO committee, American Academy of Periodontology 2018-present**
  - o Led and organized restructuring of the committee to reflect the demographics of our membership
  - o Recruited and trained speakers from under-represented cohorts, especially females, younger members, and individuals from non-research training programs
  - o Piloted and established a web-based continuing education program to offer CE opportunities during the COVID lockdown and beyond
  - o Organized and conducted the first Virtual Annual Meeting during the COVID pandemic with a full slate of attendees and an international panel of speakers
- **Chair, Senate Research Committee, 2015-2019**
  - o Created a standing committee to serve on the University Research Integrity Taskforce.
  - o Created a subcommittee to develop a whitepaper on research integrity and developed principles and guidelines for assigning authorship credit. This whitepaper and guideline are part of our University Commons and used for onboarding new faculty and post-doctoral researchers.
- **Chair, Research Submissions Committee, American Academy of Periodontology. 2009-2015**
  - o Created a vision for the committee that aligned with the strategic mission of the academy
  - o Organized and led philanthropic outreach to institute more awards for student research.
- **Spokesperson for the American Dental Association, 2019-present**
  - o Created public service announcement on health effects of vaping
  - o Gave interviews to media on smoking, vaping and human health
  - o Gave a deposition to the Food and Drug Administration on adverse oral effects of vaping
- **Member, Women in Science (International Association of Dental Research) Women Dentists Worldwide (Federation Dentaire International) Taskforce on Women in Periodontics (American Academy of Periodontology).**
  - o Created training programs in public speaking and engagement for new female dental and periodontal graduates
  - o Organized conversations centered on the #heforshe ideology
  - o Created opportunities for women in leadership within the American Academy of Periodontology

### Awards and Honors

ADEA Gies Award Outstanding Educator in Periodontology	2020
Outstanding Educator Award, American Academy of Periodontology	2017
Stazen Award for Research Excellence, The Ohio State University (Senior)	2017
Student Government Teaching Award, The Ohio State University	2016
Student Government Teaching Award, The Ohio State University	2015
Student Government Teaching Award, The Ohio State University	2014
Student Government Teaching Award, The Ohio State University	2013
Student Government Teaching Award, The Ohio State University	2007
Stazen Award for Research Excellence, The Ohio State University (Junior)	2007
OKU Member, The Ohio State University Chapter	2006
Fellow, Sigma Xi Scientific Research Society	2005
Colgate-Palmolive Award for Academic Excellence in Dental Education	1991

### Board Certifications and Licensure

**Diplomate**, American Board of Periodontology, 2006-present  
**Dental licensure**: Ohio License # 30.023109, 2009-present  
 Michigan License # 2901601270  
**Permit for IV Sedation**, Ohio License # IV.000479, 2009-present

### Professional Memberships

2006-present American Academy of Periodontology  
 2004-present IADR/AADR  
 2012-present American Dental Association  
 2010-present Anaerobe Society of the Americas  
 2006-present American Society of Microbiology  
 2010-present American Academy for the Advancement of Science (AAAS)

### Service To Dentistry And Higher Education

**Vice-Chair**, Council for Scientific Affairs, ADA 2022  
**President-Elect**, Periodontal Research Group, IADR 2022

Faculty mentor, AADR's MIND The Future initiative 2020-2022  
**Chair**, Elections and Nominations Committee AAAS 2019-2021  
 Member, Coalition for Substance Abuse, Ohio Dental Association 2019-present  
 Member, Governor of Ohio's coalition for opioid abuse, State of Ohio 2019-present  
 Member, Council for Scientific Affairs, American Dental Association 2019-present  
 Research Priorities Subcommittee, American Dental Association 2018-present  
**Chair**, AADR Fellowships Committee 2018-present  
 Council Member, Dental Insurance Working Group, Ohio Dental Association 2014-present  
 Council Member, Council for Dental Care and Policies, Ohio Dental Association 2014-present  
**Board of Directors**, Anaerobe Society of the Americas 2007-2019

### Service To College and University

Member, search committee, Dean, College of Dentistry 2021  
 Member, search committee, Post-doctoral program director, Dental Hygiene 2021  
 Member, Faculty Council, College of Dentistry 2020-present  
 Dean's advisory committee on Electronic Health System implementation 2018  
**Chair**, Elections and Appointments Committee, College of Dentistry 2017-2019  
 Member, Faculty Council, The Ohio State University 2017-present  
**Senator**, University Senate, The Ohio State University 2017-present

**Chair**, search committee, Associate Dean for Research, College of Dentistry 2017  
 Member, Faculty Advisory Council to the Senior Vice President for Research 2017-present  
 Member, Office of Research Workgroup on Growing Research Opportunities 2017-present

**Chair**, search committee, Pre-doctoral program director, Periodontology 2014  
**Board of Directors**, Dental Faculty Practice Plan, The Ohio State University 2009-present  
 Faculty member, OSU Gateway to India 2017-present  
 Faculty member, OSU Gateway to Brazil 2017-present

### Service to student groups and organizations

**Founder**, and faculty advisor: Periodontal Interest Group and Honor Society 2010-2022  
 Faculty advisor, STEP@OSU: 2<sup>nd</sup> year Transformational Experience Program 2018-2022

## Advisory Service, Scientific Panels

<b>Chartered member</b> , Oral Dental and Craniofacial Sciences (ODCS) study section	2021
Special Emphasis Panel 2021/01 ZRG1 MOSS-S (02) M, NIH/NIDCR	2021
NIH-CSR-EC Special Emphasis Panel-ZRG1 CVRS-H 50R on e-cigarettes, member	2020
ODCS study section, panel member	2020
Taskforce on Future Science, American Academy of Periodontology	2020-present
NIH-CSR-EC Special Emphasis Panel-ZRG1 CVRS-H 50R on e-cigarettes, member	2019
<b>Panelist</b> , FDA Tobacco Steering Committee	2018
<b>Chair</b> , Tobacco Related Disease Research Program grants review panel	2017
Grant reviewer, Network for Canadian Oral Health Research	2017-present
Grant reviewer, Health and Medical Research Fund (HMRF), Govt. of Hong Kong	2017-present
Grant reviewer, Wellcome Trust (UK)	2016-2018
Grant reviewer, National Medical Research Council, Singapore	2016-present
Member, Tobacco Related Disease Research Program grants review panel	2015-2016
<b>Chartered member</b> DSR1, NIDCR Fellowship, Career Development and Training Programs Review Panel	2012-2017

## Community Service

- **Chair, “Read and Return UA” Upper Arlington School District**, Columbus, Ohio, 2004-2019. Each child donates books that they do not want to the cause, and buy books from these collections at a fete. Each year, we raise \$2500-\$3000 to fund initiatives ranging from buying goats in Africa for the Heifer foundation to paying for a school ravaged by Katrina to supporting a refugee family’s relocation in Columbus Ohio.
- **Support the girls**: A charity devoted to restoring dignity to homeless women. This includes supplying them with sanitary napkins, bras and other intimate apparel that they have difficulty in accessing. I work to raise funds and volunteer my time.
- **Tobacco cessation committee of The Ohio State University**. This committee is devoted to increasing awareness of the risks associated with smoking and chewing tobacco and vaping among all members of our community.
- **Franklin County Tobacco-Free Collaborative**: The TFC is a group of individuals from across diverse backgrounds dedicated to reducing the prevalence of death and disease associated with tobacco use by addressing policies, systems and environmental factors within the City of Columbus and Franklin County

## Training and mentorship

### Graduate students:

- Dr. Stacey Papapostolou (MS) is faculty at the University of Thesolonikki, Greece
- Dr. Chad Matthews (MS) is in private practice in South Carolina
- Dr. Samir Shah (MS) is on faculty at Rutgers school of dentistry
- Dr. Alexandra Tsigarida (MS) is Program director of Periodontology at Eastman, Rochester
- Dr. Rachana Hegde (MS) is on faculty at Roseman School of Dental Medicine, Utah
- Dr. Najla Kasabreh (MS) is on faculty at University of Jordan

- Dr. Nicolas Robitaille is in private practice in Montreal, Canada
- Dr. Matthew Mason (DDS/PhD) is a periodontal resident at University of North Carolina
- Dr. Sukirth Ganesan (MS/PhD) completed fellowship at NIH and is program director at University of Iowa
- Dr. Khaled Altabtbaei (MS/PhD) is on faculty at University of Alberta, Canada
- Dr. Mabelle Monteiro-Frietos (MS/PhD) is on faculty at University of Campinas (UNICAMP), Sao Paulo, Brazil
- Dr. Isabel Oliva-Lopez (PhD) is on faculty at Barts London

#### **Post-doctoral fellows:**

- Dr. Vinayak Joshi MDS, PhD- is now an assistant professor in the department of periodontology at The Ohio State University
- Dr. Shareef Dabdoub, PhD, is now an assistant professor in the department of periodontology at The Ohio State University
- Dr. Akshay Paropkari PhD is now completing his second postdoctoral fellowship in University of California, Merced
- Dr. Prem Prasad Chaudary PhD is staff scientist with NIAID
- Dr. Priscilla Longo MS/PhD is faculty at UNICAMP, Sao Paulo, Brazil

#### **Junior faculty:**

- Faculty development committee for Dr. Yun Wang, Assistant to Associate professor, Periodontology
- Faculty development committee for Dr. Luiz Merialles, Assistant to Associate professor, Prosthodontics
- Faculty development committee Brian Partido, Assistant to Associate professor, Dental Hygiene

#### **Academic Program Leadership and Teaching Experience (selected courses featured here)**

- **Course director:** Biology of the periodontium and etiology and pathogenesis of periodontal diseases. One of two periodontal courses for dental students, offered in D2 year. 2006-2020
- **Course director:** Current advances in periodontics. Seminar-based course on current literature review for graduate students 2010-present
- **Course director:** Ethics in Research. Seminar-based course on topics related to research integrity for graduate students 2017, 2020
- **Course director:** Periodontal surgical elective and selective. Hands-on and seminar-based course on basic periodontal surgical techniques for dental students 2006-2020
- **Director and Coordinator:** Conscious sedation and IV sedation for periodontal residents
- Lecturer in Introduction to Early Clinics (D1), Oral healthcare protocols (D1 and DH1), Surgical and non-surgical periodontal therapy (D2), Introduction to oral implantology (D3), Bioinformatics-principles and application (Dept. of Microbiology, OSU)
- Clinical instructor-predocutorial and graduate periodontal clinics

#### **Contributions to Science**

##### **Journal Editorship**

Co-editor, Clinical Advances in Periodontics  
Associate editor, Journal of Periodontology  
Associate editor, Microbiome  
Associate editor, Periodontology 2000  
Associate editor, Nature Scientific Reports  
Associate editor, Frontiers in Cellular and Infection Microbiology  
Member of the Editorial Board, Molecular Oral Microbiology

### **Selected Publications:**

1. **Kumar, PS.**, Barton JB., Griffen AL., Leys EJ., *New bacterial species associated with chronic periodontitis.* J Dent Res, 2003. 82(5): p. 338-44.
2. Shchipkova AY, Nagaraja HN, **Kumar PS.** *Subgingival microbial profiles of smokers with periodontitis.* J Dent Res. 2010 Nov;89(11):1247-53.
3. Delima S, McBride RK, Preshaw PM, Heasman PA, **Kumar PS.** *Effect of smoking cessation on subgingival bacterial levels.* J Clin Microbiol 2010;48:2344-2349
4. Mason MR, Preshaw PM, Nagaraja HN, Dabdoub SM, Rahman A and **Kumar PS** *The subgingival microbiome of clinically healthy current and never smokers.* ISME 2014.
5. Papapostolou A, Kroffke B, Tatakis DN, Nagaraja HN, **Kumar PS.** *Contribution of host genotype to the composition of health-associated supragingival and subgingival microbiomes.* J Clin Periodontol. 2011 Mar 15
6. **Kumar PS**, Brooker MR, Dowd SE, Camerlengo T. *Target region selection is a critical determinant of community fingerprints generated by 16S pyrosequencing.* PLoS One.
7. Matthews C, Joshi V, de Jager M, Aspiras M, **Kumar PS.** *Host-bacterial interactions during induction and resolution of experimental gingivitis in current smokers.* J Periodontol 2013;84(1):32-40.
8. Paropkari AD, Leblebicioglu B, Christian LM, **PS. Kumar** *Smoking, pregnancy and the subgingival microbiome.* Nature Scientific reports.
9. Lopez-Oliva I, Paropkari AD, Saraswat S, Serban S, Yonel Z, Sharma P, de Pablo P, Raza K, Filer A, Chapple I, Dietrich T, Grant MM, **Kumar PS** *Dysbiotic Subgingival Microbial Communities in Periodontally Healthy Patients With Rheumatoid Arthritis.* Arthritis Rheumatol. 2018 Jul;70(7):1008-1013
10. Ganesan SM, Joshi V, Fellows M, Dabdoub SM, Nagaraja HN, O'Donnell B, Deshpande NR, **Kumar PS.** *A tale of two risks: smoking, diabetes and the subgingival microbiome.* ISME J. 2017 Sep;11(9):2075-2089.
11. Ganesan SM, Dabdoub SM, Nagaraja HN, Scott ML, Pamulapati SC, Berman ML, Shields PG, Wewers ME and **Kumar PS.** *Adverse effects of electronic cigarettes on the disease-naive oral microbiome.* Science Advances, June 2020
12. **Kumar PS**, Dabdoub SM, Hegde R Ranganathan N, Mariotti A. *Site-level risk predictors of peri-implantitis: A retrospective analysis.* Site-level risk predictors of peri-implantitis: A retrospective analysis. J Clin Periodontol. 2018 May;45(5):597-604
13. Dabdoub SM, Tsigarida AA, **Kumar PS.** *Patient-specific analysis of periodontal and peri-implant microbiomes* J Dent Res. 2013 Dec;92(12 Suppl):168S-75S
14. Tsigarida AA, Dabdoub SM, Nagaraja HN, **Kumar PS.** *The influence of smoking on the peri-implant microbiome.* Journal of Dental Research. May 2015.
15. Kumar PS, Monteiro MF, Dabdoub SM, Miranda GL, Casati MZ, Ribeiro FV, Cirano FR, Pimentel SP, Casarin RCV *Subgingival Host-Microbial Interactions in Hyperglycemic Individuals* Journal of Dental Research. May 2020
16. Meethil AP, Saraswat S, Chaudhary PP, Dabdoub SM, **Kumar PS** *Sources of SARS CoV-2 and other microorganisms in dental aerosols* Journal of Dental Research. May 2021
17. Altabtbaei K, Maney P, Ganesan AM, Dabdoub SM, Nagaraja HN, **Kumar PS** *Anna Karenina and the subgingival microbiome associated with periodontitis.* Microbiome 2021

### **Invited Presentations (selected)**

1. *Rock, paper, scissors: The oral microbiome at the intersection of systemic, anthropogenic, and genotypic influences*, NIDCR Clinical Case Conference 2021
2. *Living under a cloud: Smoking, vaping and the oral microbiome*, FDA's Center for Tobacco Products 2021
3. *Antibiotic Wars: Resistance to antimicrobial agents* OHSU College of Dentistry Dean's symposium 2021
4. *Classification of periodontal disease: A user's manual* Indian Society of Periodontology 2021
5. *COVID-19 and dental aerosols* Webinar for Brazilian Society of Periodontology (SOBRAPE) 2021
6. *COVID-19: Using science to separate fact from fiction* Webinar for the American Academy of Periodontology 2020
7. *COVID-19 and its impact on the practice of dentistry* Annual meeting of American Academy of Pediatric Dentistry 2020
8. *E-cigarettes and oral health: Not a lucky strike* Ohio Dental Association Leadership Institute 2019
9. *Friends with benefits: Harnessing the oral microbiome for health*, College of Dentistry IUPUI, 2019
10. *Relative Contributions of Genotype and Environment to Shaping the Oral Microbiome* UNLV School of Dental Medicine Dean's Symposium & Student Research Day 2018

### **Podcasts:**

1. "What have we learned since March 15 about Covid-19 and pandemics" Newly Erupted Podcast, American Academy of Pediatric Dentistry
2. "Dynamic ecosystems: The oral microbiome and systemic disease" The Babbage, Podcast of The Economist, London
3. "*E-cigarettes and oral health*" The House of Wellness, Australian Broadcasting Corporation

### **Grants and Contracts**

#### **Active**

U01 CA188250-01 (PI: Kumar (multiple PD/PI)) National Cancer Institute

*Interactive Omics: Black raspberry metabolites and the oral microbiome in smokers*  
8/15/2014-7/31/2021

R01 DE027857-01 (PI: Kumar) NIDCR

*E-cigarettes and perturbations in the subgingival ecosystem* 08/14/2018-08/13/2023

R03 DE027492-01A1 (PI: Dabdoub ) NIDCR Role: Co-I

*Uncovering the functional potential of the developing peri-implant microbiome* (08/16/2019-8/15/2021)

DRC-0585 (PI: Kumar) Philips Oral Healthcare, Inc.

*A longitudinal study to characterize and correlate clinical, microbial and host response parameters in subjects with mild to moderate gingivitis* 10/01/2010-12/31/2021

DRC-0635 (PI: Kumar) Philips Oral Healthcare, Inc.

*A randomized clinical trial to examine the host-bacterial interface in experimental peri-implant mucositis*  
10/01/2017-12/31/2022

DRC- 0587 São Paulo Research Foundation (Fundação De Amparo À Pesquisa Do Estado De São Paulo)

*Heritability of the oral microbiome in individuals with generalized aggressive periodontitis*  
6/1/2017-5/31/2022

DRC- 0392 (PI: Kumar) Wrigley Mars Inc.

*Host-microbial interactions that determine response to plaque accumulation*

## **BIBLIOGRAPHY**

<https://www.ncbi.nlm.nih.gov/myncbi/purnima.kumar.1/bibliography/public/>