

Hyun Koo

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72
papers

5,631
citations

37
h-index

75
g-index

76
ext. papers

7,412
ext. citations

8.3
avg, IF

6.35
L-index

| # | Paper | IF | Citations |
|----|---|------|-----------|
| 72 | Targeting microbial biofilms: current and prospective therapeutic strategies. <i>Nature Reviews Microbiology</i> , 2017 , 15, 740-755 | 22.2 | 734 |
| 71 | The oral microbiota: dynamic communities and host interactions. <i>Nature Reviews Microbiology</i> , 2018 , 16, 745-759 | 22.2 | 572 |
| 70 | Oral Biofilms: Pathogens, Matrix, and Polymicrobial Interactions in Microenvironments. <i>Trends in Microbiology</i> , 2018 , 26, 229-242 | 12.4 | 339 |
| 69 | The exopolysaccharide matrix modulates the interaction between 3D architecture and virulence of a mixed-species oral biofilm. <i>PLoS Pathogens</i> , 2012 , 8, e1002623 | 7.6 | 329 |
| 68 | Symbiotic relationship between <i>Streptococcus mutans</i> and <i>Candida albicans</i> synergizes virulence of plaque biofilms in vivo. <i>Infection and Immunity</i> , 2014 , 82, 1968-81 | 3.7 | 306 |
| 67 | Generation of compartmentalized pressure by a nuclear piston governs cell motility in a 3D matrix. <i>Science</i> , 2014 , 345, 1062-5 | 33.3 | 228 |
| 66 | pH-activated nanoparticles for controlled topical delivery of farnesol to disrupt oral biofilm virulence. <i>ACS Nano</i> , 2015 , 9, 2390-404 | 16.7 | 201 |
| 65 | <i>Streptococcus mutans</i> extracellular DNA is upregulated during growth in biofilms, actively released via membrane vesicles, and influenced by components of the protein secretion machinery. <i>Journal of Bacteriology</i> , 2014 , 196, 2355-66 | 3.5 | 185 |
| 64 | <i>Streptococcus mutans</i> -derived extracellular matrix in cariogenic oral biofilms. <i>Frontiers in Cellular and Infection Microbiology</i> , 2015 , 5, 10 | 5.9 | 168 |
| 63 | Nanocatalysts promote <i>Streptococcus mutans</i> biofilm matrix degradation and enhance bacterial killing to suppress dental caries in vivo. <i>Biomaterials</i> , 2016 , 101, 272-84 | 15.6 | 156 |
| 62 | Dextran-Coated Iron Oxide Nanoparticles as Biomimetic Catalysts for Localized and pH-Activated Biofilm Disruption. <i>ACS Nano</i> , 2019 , 13, 4960-4971 | 16.7 | 124 |
| 61 | Emerging Biomedical Applications of Enzyme-Like Catalytic Nanomaterials. <i>Trends in Biotechnology</i> , 2018 , 36, 15-29 | 15.1 | 113 |
| 60 | <i>Candida albicans</i> stimulates <i>Streptococcus mutans</i> microcolony development via cross-kingdom biofilm-derived metabolites. <i>Scientific Reports</i> , 2017 , 7, 41332 | 4.9 | 98 |
| 59 | <i>Candida albicans</i> mannans mediate <i>Streptococcus mutans</i> exoenzyme GtfB binding to modulate cross-kingdom biofilm development in vivo. <i>PLoS Pathogens</i> , 2017 , 13, e1006407 | 7.6 | 93 |
| 58 | Dynamics of <i>Streptococcus mutans</i> transcriptome in response to starch and sucrose during biofilm development. <i>PLoS ONE</i> , 2010 , 5, e13478 | 3.7 | 90 |
| 57 | Converting organosulfur compounds to inorganic polysulfides against resistant bacterial infections. <i>Nature Communications</i> , 2018 , 9, 3713 | 17.4 | 85 |
| 56 | <i>Candida albicans</i> and Early Childhood Caries: A Systematic Review and Meta-Analysis. <i>Caries Research</i> , 2018 , 52, 102-112 | 4.2 | 82 |

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|----|--|------|----|
| 55 | Topical ferumoxytol nanoparticles disrupt biofilms and prevent tooth decay in vivo via intrinsic catalytic activity. <i>Nature Communications</i> , 2018 , 9, 2920 | 17.4 | 79 |
| 54 | Catalytic antimicrobial robots for biofilm eradication. <i>Science Robotics</i> , 2019 , 4, | 18.6 | 77 |
| 53 | Bacterial-derived exopolysaccharides enhance antifungal drug tolerance in a cross-kingdom oral biofilm. <i>ISME Journal</i> , 2018 , 12, 1427-1442 | 11.9 | 73 |
| 52 | The influence of mutanase and dextranase on the production and structure of glucans synthesized by streptococcal glucosyltransferases. <i>Carbohydrate Research</i> , 2004 , 339, 2127-37 | 2.9 | 66 |
| 51 | l-Arginine Modifies the Exopolysaccharide Matrix and Thwarts Streptococcus mutans Outgrowth within Mixed-Species Oral Biofilms. <i>Journal of Bacteriology</i> , 2016 , 198, 2651-61 | 3.5 | 66 |
| 50 | Dynamic cell-matrix interactions modulate microbial biofilm and tissue 3D microenvironments. <i>Current Opinion in Cell Biology</i> , 2016 , 42, 102-112 | 9 | 65 |
| 49 | Extraction and purification of total RNA from Streptococcus mutans biofilms. <i>Analytical Biochemistry</i> , 2007 , 365, 208-14 | 3.1 | 61 |
| 48 | Candida-streptococcal interactions in biofilm-associated oral diseases. <i>PLoS Pathogens</i> , 2018 , 14, e1007348 | | 61 |
| 47 | Targeted, triggered drug delivery to tumor and biofilm microenvironments. <i>Nanomedicine</i> , 2016 , 11, 873-9 | 5.6 | 59 |
| 46 | Effects of Apis mellifera propolis on the activities of streptococcal glucosyltransferases in solution and adsorbed onto saliva-coated hydroxyapatite. <i>Caries Research</i> , 2000 , 34, 418-26 | 4.2 | 58 |
| 45 | Simultaneous spatiotemporal mapping of in situ pH and bacterial activity within an intact 3D microcolony structure. <i>Scientific Reports</i> , 2016 , 6, 32841 | 4.9 | 56 |
| 44 | Spatial mapping of polymicrobial communities reveals a precise biogeography associated with human dental caries. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 12375-12386 | 11.5 | 49 |
| 43 | Characterization and optimization of pH-responsive polymer nanoparticles for drug delivery to oral biofilms. <i>Journal of Materials Chemistry B</i> , 2016 , 4, 3075-3085 | 7.3 | 49 |
| 42 | Analysis of the mechanical stability and surface detachment of mature Streptococcus mutans biofilms by applying a range of external shear forces. <i>Biofouling</i> , 2014 , 30, 1079-91 | 3.3 | 48 |
| 41 | Candida albicans Carriage in Children with Severe Early Childhood Caries (S-ECC) and Maternal Relatedness. <i>PLoS ONE</i> , 2016 , 11, e0164242 | 3.7 | 48 |
| 40 | RNA-Seq Reveals Enhanced Sugar Metabolism in Co-cultured with within Mixed-Species Biofilms. <i>Frontiers in Microbiology</i> , 2017 , 8, 1036 | 5.7 | 47 |
| 39 | Enhanced design and formulation of nanoparticles for anti-biofilm drug delivery. <i>Nanoscale</i> , 2018 , 11, 219-236 | 7.7 | 45 |
| 38 | Biofilm three-dimensional architecture influences in situ pH distribution pattern on the human enamel surface. <i>International Journal of Oral Science</i> , 2017 , 9, 74-79 | 27.9 | 40 |

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|----|---|------|----|
| 37 | Dynamics of bacterial population growth in biofilms resemble spatial and structural aspects of urbanization. <i>Nature Communications</i> , 2020 , 11, 1354 | 17.4 | 37 |
| 36 | EMangostin disrupts the development of <i>Streptococcus mutans</i> biofilms and facilitates its mechanical removal. <i>PLoS ONE</i> , 2014 , 9, e111312 | 3.7 | 34 |
| 35 | The collagen binding protein Cnm contributes to oral colonization and cariogenicity of <i>Streptococcus mutans</i> OMZ175. <i>Infection and Immunity</i> , 2015 , 83, 2001-10 | 3.7 | 33 |
| 34 | Potential implications of SARS-CoV-2 oral infection in the host microbiota. <i>Journal of Oral Microbiology</i> , 2020 , 13, 1853451 | 6.3 | 32 |
| 33 | Topical delivery of low-cost protein drug candidates made in chloroplasts for biofilm disruption and uptake by oral epithelial cells. <i>Biomaterials</i> , 2016 , 105, 156-166 | 15.6 | 30 |
| 32 | Genetic analysis of the <i>Candida albicans</i> biofilm transcription factor network using simple and complex haploinsufficiency. <i>PLoS Genetics</i> , 2017 , 13, e1006948 | 6 | 30 |
| 31 | Nonleachable Imidazolium-Incorporated Composite for Disruption of Bacterial Clustering, Exopolysaccharide-Matrix Assembly, and Enhanced Biofilm Removal. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 38270-38280 | 9.5 | 29 |
| 30 | Multi-omics Analyses Reveal Synergistic Carbohydrate Metabolism in <i>Streptococcus mutans</i> - <i>Candida albicans</i> Mixed-Species Biofilms. <i>Infection and Immunity</i> , 2019 , 87, | 3.7 | 29 |
| 29 | Influence of Degree-of-Polymerization and Linkage on the Quantification of Proanthocyanidins using 4-Dimethylaminocinnamaldehyde (DMAC) Assay. <i>Journal of Agricultural and Food Chemistry</i> , 2016 , 64, 2190-9 | 5.7 | 28 |
| 28 | Cranberry Flavonoids Modulate Cariogenic Properties of Mixed-Species Biofilm through Exopolysaccharides-Matrix Disruption. <i>PLoS ONE</i> , 2015 , 10, e0145844 | 3.7 | 28 |
| 27 | Microbial Nanoculture as an Artificial Microniche. <i>Scientific Reports</i> , 2016 , 6, 30578 | 4.9 | 28 |
| 26 | Novel Endodontic Disinfection Approach Using Catalytic Nanoparticles. <i>Journal of Endodontics</i> , 2018 , 44, 806-812 | 4.7 | 27 |
| 25 | <i>Candida</i> -Bacterial Biofilms and Host-Microbe Interactions in Oral Diseases. <i>Advances in Experimental Medicine and Biology</i> , 2019 , 1197, 119-141 | 3.6 | 19 |
| 24 | The Impact of Dental Implant Surface Modifications on Osseointegration and Biofilm Formation. <i>Journal of Clinical Medicine</i> , 2021 , 10, | 5.1 | 19 |
| 23 | An analytical tool-box for comprehensive biochemical, structural and transcriptome evaluation of oral biofilms mediated by <i>mutans streptococci</i> . <i>Journal of Visualized Experiments</i> , 2011 , | 1.6 | 18 |
| 22 | Precision targeting of bacterial pathogen via bi-functional nanozyme activated by biofilm microenvironment. <i>Biomaterials</i> , 2021 , 268, 120581 | 15.6 | 18 |
| 21 | Repurposing ferumoxytol: Diagnostic and therapeutic applications of an FDA-approved nanoparticle.. <i>Theranostics</i> , 2022 , 12, 796-816 | 12.1 | 15 |
| 20 | Isolation and purification of total RNA from <i>Streptococcus mutans</i> in suspension cultures and biofilms. <i>Brazilian Oral Research</i> , 2008 , 22, 216-22 | 2.6 | 14 |

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|----|--|------|----|
| 19 | Dual antibacterial drug-loaded nanoparticles synergistically improve treatment of <i>Streptococcus mutans</i> biofilms. <i>Acta Biomaterialia</i> , 2020 , 115, 418-431 | 10.8 | 14 |
| 18 | Do catalytic nanoparticles offer an improved therapeutic strategy to combat dental biofilms?. <i>Nanomedicine</i> , 2017 , 12, 275-279 | 5.6 | 13 |
| 17 | Surface-induced changes in the conformation and glucan production of glucosyltransferase adsorbed on saliva-coated hydroxyapatite. <i>Langmuir</i> , 2015 , 31, 4654-62 | 4 | 13 |
| 16 | Electrostatic Interactions Enable Nanoparticle Delivery of the Flavonoid Myricetin. <i>ACS Omega</i> , 2020 , 5, 12649-12659 | 3.9 | 12 |
| 15 | Ferumoxytol Nanoparticles Target Biofilms Causing Tooth Decay in the Human Mouth. <i>Nano Letters</i> , 2021 , 21, 9442-9449 | 11.5 | 12 |
| 14 | and Impact Cell Envelope Biogenesis, the Biofilm Matrix, and Biofilm Biophysical Properties. <i>Journal of Bacteriology</i> , 2019 , 201, | 3.5 | 12 |
| 13 | Displays Altered Stress Responses While Enhancing Biofilm Formation by in Mixed-Species Consortium. <i>Frontiers in Cellular and Infection Microbiology</i> , 2017 , 7, 524 | 5.9 | 11 |
| 12 | Synergism of and Reinforces Biofilm Maturation and Acidogenicity in Saliva: An Study. <i>Frontiers in Cellular and Infection Microbiology</i> , 2020 , 10, 623980 | 5.9 | 8 |
| 11 | Affordable oral health care: dental biofilm disruption using chloroplast made enzymes with chewing gum delivery. <i>Plant Biotechnology Journal</i> , 2021 , 19, 2113-2125 | 11.6 | 7 |
| 10 | Polymicrobial Aggregates in Human Saliva Build the Oral Biofilm.. <i>MBio</i> , 2022 , e0013122 | 7.8 | 7 |
| 9 | Retrospective Analysis of Candida-related Conditions in Infancy and Early Childhood Caries. <i>Pediatric Dentistry (discontinued)</i> , 2018 , 40, 131-135 | 1.2 | 5 |
| 8 | Beyond Mucosal Infection: a Role for <i>C. albicans</i> -Streptococcal Interactions in the Pathogenesis of Dental Caries. <i>Current Oral Health Reports</i> , 2014 , 1, 86-93 | 1.2 | 4 |
| 7 | Inhibitory effects of xylitol and sorbitol on <i>Streptococcus mutans</i> and <i>Candida albicans</i> biofilms are repressed by the presence of sucrose. <i>Archives of Oral Biology</i> , 2020 , 119, 104886 | 2.8 | 3 |
| 6 | Femtomolar SARS-CoV-2 Antigen Detection Using the Microbubbling Digital Assay with Smartphone Readout Enables Antigen Burden Quantitation and Dynamics Tracking 2021 , | | 3 |
| 5 | Femtomolar SARS-CoV-2 Antigen Detection Using the Microbubbling Digital Assay with Smartphone Readout Enables Antigen Burden Quantitation and Tracking. <i>Clinical Chemistry</i> , 2021 , | 5.5 | 3 |
| 4 | Impact of the repurposed drug thonzonium bromide on host oral-gut microbiomes. <i>Npj Biofilms and Microbiomes</i> , 2021 , 7, 7 | 8.2 | 3 |
| 3 | Electrochemical Strategy for Eradicating Fluconazole-Tolerant Using Implantable Titanium. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 40997-41008 | 9.5 | 1 |
| 2 | Intervening in Symbiotic Cross-Kingdom Biofilm Interactions: a Binding Mechanism-Based Nonmicrobicidal Approach. <i>MBio</i> , 2021 , 12, | 7.8 | 1 |

- 1 The effect of Brazilian propolis type-3 against oral microbiota and volatile sulfur compounds in subjects with morning breath malodor. *Clinical Oral Investigations*, **2021**, 1

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