



**MICHAEL GILMORE**

### **CANDIDATE STATEMENT**

What is the future of ASM? Since my days as a graduate student, ASM has played an important role in broadening my horizons and building a wonderful network of connections. How we can best do this for the next generation of microbiologists is the central question. Since starting out as an Assistant Professor of Microbiology at the University of Oklahoma Health Sciences Center, through leadership positions in the Harvard Medical School, Harvard University and Mass General Brigham systems, I have helped steer departments and institutions through good times, challenging times and changes. This is a time of change for ASM. As a microbiologist, the focus of my interest is on multidrug resistant gram positive pathogens enterococci, staphylococci, and streptococci. Our work uses genetic and genomic tools to understand these microbes through their ecology, pathogenesis and evolution, with a view toward devising new ways to treat and prevent infection. As Co-Director of the Harvard University-wide Microbial Sciences Initiative, I encounter students and microbiologists in fields ranging from engineering to origins of life, and work with them to build a synergistic community. This is a microcosm of what ASM leadership does, and this experience may be of value. As former chair of NIH study sections and review panels, I also have experience working toward consensus, often from disparate starting points. With imagination and creativity, I believe ASM can evolve as new means for communication and collaboration develop, and continue to play an important role in the career development of the next generation of microbiologists. I would be happy to contribute what I can to achieve that. Michael S. Gilmore, PhD; Sir William Osler Professor, Harvard Medical School; Co-Director, Microbial Sciences Initiative Harvard University; Chief Scientific Officer, Mass Eye and Ear/Mass General Brigham.

### **ASM-RELATED ACTIVITIES**

- Editor, *mBio*, 2013-Present
- ASM Division D (Microbes of Medical Importance), Chair, 2008 -2009
- American Academy of Microbiology Fellow, elected 1998

## CURRICULUM VITAE (HMS Format)

**DATE PREPARED:** May, 2022

### **PART I: General Information**

**Name:** Michael S. Gilmore

**Home Address:** 39 Andrew Rd.  
Swampscott, MA 01907 United States

**Harvard Medical School Titles:** Sir William Osler Professor  
Department of Ophthalmology  
Department of Microbiology  
Director, Infectious Disease Institute

**Harvard University Titles:** Co-Director, Microbial Sciences Initiative

**Affiliate Titles:** Chief Scientific Officer, Mass Eye and Ear/Mass General Brigham  
Senior Scientist, Mass Eye and Ear

**Office Address:** Massachusetts Eye and Ear Infirmary  
243 Charles Street  
Boston, MA 02114 United States

**Phone:** (617) 894-2260

**Email:** michael\_gilmore@meei.harvard.edu

**Fax:** (617) 573-3751

**Place of Birth:** Grosse Pointe, Michigan

### **Education:**

1977	B.A. (Health Science), Kalamazoo College
1978	M.S. (Grain Science and Industry), Kansas State University
1981	M.S. (Biochemistry and Molecular Biology), Colin MacLeod Fellow, University of Oklahoma Health Sciences Center
1982	Ph.D. (Biochemistry and Molecular Biology), Colin MacLeod Fellow, University of Oklahoma Health Sciences Center
2004	M.A.(Hon) (Medicine), Harvard University

### **Postdoctoral Training:**

- 07/81-12/81 US National Academy of Sciences Exchange Fellow to the German Democratic Republic (DDR), Molecular Genetics/Pathogenesis, Central Institute für Experimentelle Therapie
- 06/82-05/84 Akademischer Rat/Postdoctoral Research Associate, Molecular Genetics/Pathogenesis, Universität Würzburg, Institut für Genetik und Mikrobiologie
- 06/84-09/84 Postdoctoral Research Associate, Molecular Genetics/Pathogenesis, University of Michigan

**Academic Appointments:**

- 1984-1990 Assistant Professor of Microbiology and Immunology, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 1991 Fogarty Senior International Exchange Fellow to Cambridge University, Cambridge University, Cambridge, UK
- 1991-1996 Associate Professor of Microbiology and Immunology (with Tenure), University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 1994-1996 Associate Professor of Ophthalmology (with Tenure), University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 1994-2004 Senior Scientist, Dean A. McGee Eye Institute, Oklahoma City, OK
- 1995-2004 Member, University of Oklahoma Center for Neurosciences, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 1997-2004 Professor of Ophthalmology, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 1997-2004 Professor of Microbiology and Immunology, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 1998-2004 George Lynn Cross Research Professor, College of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 1999-2004 MG McCool Endowed Chair in Ophthalmology, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 2004-2010 Charles L. Schepens Professor of Ophthalmology, Harvard Medical School, Boston, MA
- 2004-2010 Senior Scientist, Schepens Eye Research Institute, Boston, MA
- 2005-Present Faculty Member, Microbial Sciences Initiative, Harvard University, Boston/Cambridge, MA
- 2008-Present Department affiliation: Department of Microbiology and Immunobiology, Harvard Medical School
- 2010-Present Research Scientist, Massachusetts Eye and Ear Infirmary
- 2010-Present Member, Biological and Biomedical Sciences Graduate Program, Harvard Medical School
- 2011-Present Associate Member, Broad Institute of MIT and Harvard
- 2010-Present Sir William Osler Professor, Harvard Medical School, Boston, MA
- 2014 Visiting Faculty, Montana State University (Sabbatical)
- 2018-Present Member, The Academy at Harvard Medical School

**Major Administrative Responsibilities:**

1994-2004	Director, Center for Infectious and Inflammatory Eye Disease Research, Dean A. McGee Eye Institute
2000-2004	Vice President for Research, University of Oklahoma Health Sciences Center
2004 -2009	Marie and DeWalt Ankeny Director of Research, Schepens Eye Research Institute
2004-2005	Acting President and CEO, Schepens Eye Research Institute, Harvard Medical School Affiliate
2005-2009	President and CEO, Schepens Eye Research Institute, Harvard Medical School Affiliate
2007-2009	Vice Chair for Basic Research, Department of Ophthalmology, Harvard Medical School
2010 - 2018	Steering Committee, Harvard-wide Microbial Sciences Initiative
2010 - Present	Steering Committee, Infectious Disease Initiative, Broad Institute of MIT and Harvard
2014 – Present	Founding Director, Infectious Disease Institute, Harvard Medical School
2019 – Present	Director, Microbial Sciences Initiative, Harvard University
2021 – Present	Chief Scientific Officer, Mass Eye and Ear/Mass General Brigham

**Major Committee Assignments:****HMS/HSDM/HU**

2004-Present	Executive Committee, Department of Ophthalmology
2006-2009	Faculty Appointments and Promotions Committee, Harvard Medical School
2010-Present	Faculty Promotions and Reappointments Committee, Department of Ophthalmology, HMS
2009 - 2018	Steering Committee, Harvard University Microbial Sciences Initiative
2011 - Present	Steering Committee, Infectious Disease Initiative, Broad Institute of MIT and Harvard
2011	External Advisory Committee on Research, Children’s Hospital of Boston
2013-Present	Infection Control Committee, Massachusetts Eye and Ear Infirmary
2019 – Present	Director, Microbial Sciences Initiative, Harvard University

**Regional**

1986-1989	Biotechnology Development Committee, University of Oklahoma
1990-1996	Animal Care and Use Committee, University of Oklahoma Health Sciences Center
1993-1995	Research Grant Proposal Review Committee, Alabama University/Tennessee Valley Authority Research Consortium
1994	Grant Proposal Review Committee, North Carolina Biotech Consortium
1999-2003	Border Biomedical Health Advisory Committee, University of Texas El Paso

2013 - Founder and Organizer, Boston Area Antibiotic Research Network (BAARN),  
present a consortium of universities, industries and investors  
2016 Keynote Speaker, Northeast Regional ASM Meeting, Waltham MA

### **National**

1988-2003 Oral Biology and Medicine Study Section (OBM1 and OBM2), National Institutes of Health  
1989-1990 Prokaryotic Genetics Review Panel, National Science Foundation (NSF)  
1991-1996 Merit Review System , US Veterans Administration (VA)  
1992-1995 Bacteriology and Mycology Study Section (BM2), National Institutes of Health  
1992-1999 Cooperative State Research Service, US Department of Agriculture  
1993 Microbial Genetics and Physiology Study Section, National Institutes of Health (NIH)  
1993 Special Emphasis Panel , National Institute of Child Health and Human Development  
1994 Committee on Food Safety, US Food and Drug Administration (FDA)  
1994-1999 Food Safety Committee, US Food and Drug Administration, CFSAN Advisory  
1995-1999 Bacteriology and Mycology Study Section (BM2), National Institutes of Health (NIH)  
1996-1997 Microbial Genetics Review Panel, National Science Foundation  
1997 Committee on Mechanisms of Emerging Pathogens, US Department of Defense/Department of Veterans Affairs  
1998-2001 Microbial Genetics Review Panel, National Science Foundation (NSF)  
1999-2003 Bacteriology and Mycology Study Section (BM2), National Institutes of Health (NIH)  
1999-2004 Science Board Subcommittee on Center for Food Safety and Appl. Nutrit. Research, US Food and Drug Administration  
2003-2004 Oral Biology and Medicine Study Section (OBM1), National Institutes of Health  
2003-2007 Bacterial Pathogenesis Study Section (BACP), National Institutes of Health  
2004 Special Emphasis Panel on Dental Centers [Chairperson], National Institutes of Health (NIH)  
2005 Special Emphasis Panel - Oral Biology R21 [Chairperson], National Institutes of Health (NIH)  
2007-Present External Review Committee – Pittsburgh Eye and Ear Hospital, UPMC  
2007-2011 Bacterial Pathogenesis Study Section (BACP), National Institutes of Health (NIH)  
2008 -2009 Chairman, ASM Division D (Microbes of Medical Importance)  
2008 - 2010 National Eye Institute Advisory Council Subcommittee on Strategic Planning  
2009 – 2011 Chair, Bacterial Pathogenesis Study Section (BACP), National Institutes of Health  
2011-Present Ad Hoc Member, Drug Development and Resistance (DDR) Study Section, National Institutes of Health  
2011-Present Chair, Member, Ad Hoc Member, various NIH Special Emphasis Review Panels

2014 -Present Steering Committee, NIH/NIAID Genomic Centers for Infectious Diseases Program

2016 Session Chair, US Department of Defense “State of the Science Meeting: Systems Biology of Drug-Resistant Infectious Diseases”

2017 - Present Chair, NIH/DPCPSI Antimicrobial Resistance Diagnostic Challenge Review Panel

### **International**

1994 Co-Organizer, 4<sup>th</sup> International ASM Conference on Streptococcal Genetics, Santa Fe, NM

2000-2012 Member, Network on Antibiotic Resistance in *Staphylococcus aureus* (NARSA), National Institute of Allergy and Infectious Diseases

2000 Organizer, 1<sup>st</sup> International ASM Conference on Enterococci, Banff C

2001 Co-Organizer, 1<sup>st</sup> International Conference on Gram Positive Functional Genomics, San Diego, CA

2003 Co-Organizer, 2<sup>nd</sup> International Conference on Gram Positive Functional Genomics, Baveno, IT

2005-2010 International External Advisory Committee, European Commission Network of Excellence in Pathogenomics (EuroPathoGenomics)

2005 Co-Organizer, 3<sup>rd</sup> International Conference on Gram Positive Functional Genomics, San Diego, CA

2007 Co-Organizer, 4<sup>th</sup> International Conference on Gram Positive Functional Genomics, Pisa, IT

2009 Co-Organizer, 5<sup>th</sup> International Conference on Gram Positive Functional Genomics, San Diego, CA

2010 Co-Organizer, 3<sup>rd</sup> International Conference on Enterococci, Portland, OR

2010 Co-Organizer, 1<sup>st</sup> International Conference on Model Hosts, Heraklion, Crete

2012-Present International Scientific Advisory Board, University of Wuerzburg Research Center for Infectious Diseases, Chair 2016 - 2018

2012 - Present Co-Organizer International Aegean Conference on Model Hosts, Greece

2012-Present Organizer, 1<sup>st</sup> Industry, Academic, Government Workshop on *Audacious Thinking for the Advancement of Antimicrobial Therapeutics: Envisioning the next “Game-Changer,”* Harvard University, Cambridge, MA

2013-Present Founder and Organizer, Annual Boston Area Antibiotic Resistance Network (BAARN)

2014 Session Chair, Microbiology after the Genomics Revolution: Genomes 2014, Pasteur Institute, Paris, France

2014 Co-Organizer, 5<sup>th</sup> International Conference on Gram Positive Pathogens

2015 Co-Organizer, 3<sup>rd</sup> International Conference on Model Hosts, Chania, Crete

- 2015 Session Chair, Keynote Address, Société Française de Microbiologie Nouveaux Antibiotiques Actifs sur la Paroi, Institut Pasteur, Paris F
- 2016 Session Chair, The Enterococci, Microbe 2016, Boston MA
- 2016-Present Organizer, International Course on Antibiotics and Resistance, Pasteur Institute/Fondation Merieux, Annecy France
- 2016-Present Member, Scientific Advisory Board, DeGrootte Institute for Infectious Disease Research, McMaster University, Hamilton CA
- 2016-Present Member, Scientific Advisory Board, Atlantic Coast Sexually Transmitted Infections Cooperative Research Center, Bethesda MD
- 2018 Organizer, 5<sup>th</sup> International Conference on Enterococci

**Professional Societies:**

- 1978- Alpha Chi Sigma Professional Society for Chemistry, Member
- 1978- Phi Lambda Upsilon Honorary Society for Chemistry, Member
- 1979- American Society for Microbiology, Member
- 1980- Sigma Xi Honorary Society for the Sciences, Member
- 1984- Lancefield Society , Member
- 1984- American Association for the Advancement of Science, Member
- 1984-2004 American Society for Microbiology Missouri Valley Branch, Member
- 1992- American Academy of Microbiology, Member
- 1994- Association for Research in Vision and Ophthalmology, Member  
Immunology/Microbiology Program Committee, 2002-2005  
Chair, Immunology/Microbiology Section, 2005
- 2005- Massachusetts Infectious Disease Society, Member
- 2007- American Society for Microbiology Northeastern Branch, Member

**Community Service Related to Professional Work:**

- 2004-Present Speaker, Massachusetts Lions Clubs, many venues

**Editorial Boards:**

- 1985-1994 Ad-Hoc Reviewer, Molecular and General Genetics
- 1985-2000 Ad-Hoc Reviewer, Plasmid
- 1986-Present Ad-Hoc Reviewer, Infection and Immunity
- 1986-Present Ad-Hoc Reviewer, Journal of Bacteriology
- 1988-1999 Member, Applied and Environmental Microbiology
- 1989-1995 Ad-Hoc Reviewer, Gene
- 1989-2004 Ad-Hoc Reviewer, Molecular Microbiology
- 1990-Present Ad-Hoc Reviewer, Journal of Infectious Diseases

1992-Present Ad-Hoc Reviewer, Proceedings National Academy Science USA  
 1993-Present Ad-Hoc Reviewer, Nature  
 1995-Present Ad-Hoc Reviewer, Investigative Ophthalmology and Visual Science  
 1997-2000 Ad-Hoc Reviewer, Current Eye Research  
 1999-2010 Associate Editor, International Journal of Medical Microbiology  
 1999-2008 Ad-Hoc Reviewer, Emerging Infectious Diseases  
 2000-Present Ad-Hoc Reviewer, Science  
 2001-2010 Ad-Hoc Reviewer, Archives Ophthalmology  
 2002-Present Ad-Hoc Reviewer, Cell  
 2004-2009 Member, Molecular Microbiology  
 2006-Present Ad-Hoc Reviewer, Cell Host and Microbe  
 2007-2013 Associate Editor, PLoS Pathogens  
 2013-2016 Section Editor, PLoS Pathogens  
 2013-Present Board of Editors, mBio, ASM Press  
 2015-Present Board of Editors, eLife

### **Awards and Honors:**

1979-1982 Colin Munro MacLeod Research Fellow, Oklahoma Medical Research Foundation  
 1981 National Academy of Science/National Science Foundation Exchange Scientist to the German Dem. Rep., National Academy of Science/National Science Foundation  
 1982 Cora M. Downs Award for Excellence in Research, American Society for Microbiology, Missouri Valley Branch  
 1989 VH Honeymon Distinguished Lecturer Award, U. of Oklahoma Health Sciences Center  
 1991 Fogarty Senior International Fellow, Cambridge University  
 1996-1998 Waxman Foundation Lecturer, American Society for Microbiology  
 1996 Regents Award for Superior Research and Creative Activity, University of Oklahoma  
 1997 Lew R. Wasserman Merit Award, Research to Prevent Blindness, Inc.  
 1998-2004 George Lynn Cross Professor, U. of Oklahoma Health Sciences Center  
 1998 Kenote Speaker - Molecular pathogenesis of endophthalmitis, 2nd International Conference on Ocular Infections  
 1999 Distinguished Lectures in Medicine, U. New Mexico  
 1999-2004 MG McCool Endowed Chair in Ophthalmology, U. of Oklahoma Health Sciences Center  
 2000 Oxyopia Lecture, U. Of California  
 2002 Keynote Address - Biofilms in Ocular Surface Infection, 11th Meeting International Society for Contact Lens Research  
 2004 Keynote Address - Biofilms in Infection, Infectious Disease Society of America, Biofilms Section  
 International Advisory Board, 2<sup>nd</sup> International ASM Conference on Enterococci, Helsingor, DK  
 Humboldt Senior International Fellow, Alexander v. Humboldt Foundation



- Association for Research in Vision and Ophthalmology, Immunology and Microbiology (ARVO IM) Section Chair
- 2004-2008 Charles L. Schepens Endowed Chair in Ophthalmology, Harvard Medical School
- 2006 Division B/D Lecturer, American Society for Microbiology
- 2006 Keynote Address, International External Advisory Committee, European Commission Network of Excellence in Pathogenomics (Euro Patho Genomics), Menaggio, Lake Cuomo, IT
- 2007-2009 Chair-Elect, Gordon Research Conference on Microbial Adhesion and Signal Transduction
- 2007 Keynote Address, Japanese Society for Cataract and Refractive Surgery, Matsuyama, Japan
- 2008 - 2009 American Society for Microbiology Division D [Bacteria of Medical Importance] Chair Elect
- 2008 SUNY Buffalo, Keynote Address, Symposium on the Molecular Pathogenesis of Infectious Disease, Buffalo, NY
- 2009 Keynote Address, 113<sup>th</sup> Meeting of the Japanese Ophthalmological Society, Tokyo, Japan
- Keynote Address, Conférence de lancement: Maladies infectieuses, parasitaires et nosocomiales émergentes, Institut Pasteur, Paris France
- Keynote Address, European Association for Vision and Eye Research, Portoroz, Slovenia
- 2009-2011 Chairman, Gordon Research Conference on Microbial Adhesion and Signal Transduction
- 2011 Keynote address, New England Regional Center of Excellence for Biodefense, Newport, RI
- Eleventh Annual John C. Crano Lecture, University of Pittsburgh Medical Center, Pittsburgh PA
- 2012 Keynote Address, International Conference on Gram Positive Pathogens, Omaha, NE
- 20<sup>th</sup> Anniversary of ZINF Lecture: The New Infection Biology; Universität Würzburg, Germany
- 2013 Phillips Thygeson Lecture, Ocular Microbiology and Immunology Group, AAO New Orleans, LA
- Session Chair, Gordon Conference on Microbial Adhesion and Signal Transduction, Newport, RI
- 2014 CAPES Professor in Residence, University Sao Paulo, San Carlos
- Keynote Address and Session Chair, 4<sup>th</sup> International ASM Conference on Enterococci, Cartagena, Columbia
- Keynote Address, 59<sup>th</sup> Annual Wind River Conference on Prokaryotic Biology, Estes Park, CO
- Platform Discussion Leader “Ethics in Biomedical Research,” Bosch Stiftung, Leopoldina German National Academy of Science, Harvard University
- Session Keynote, International Lancefield Society, Buenos Aires AR
- 2015 Session Keynote, 115<sup>th</sup> Annual Meeting American Society for Microbiology, New Orleans, LA

- Keynote Address, Gordon Research Conference Microbial Adhesion & Signal Transduction, Newport RI
- 2016 Keynote Address, Sociedade Brasileira de Microbiologia, Florianopolis BR  
Platform Speaker, Antibiotic Resistance and Next Generation Sequencing Technology in Microbiology, Institut Merieux, Lyon F  
Keynote Speaker, 8th International Conference on Streptococcal Genetics, Washington DC  
Keynote Address, Ohio State University Center for Microbial Interface Biology Annual Research Retreat, Columbus OH  
Keynote Address, Los Alamos National Laboratories 11th Annual Sequencing, Finishing, and Analysis in the Future Meeting, Santa Fe NM  
Microbe 2016, invited Track Hub Platform Talk, Boston MA  
Platform Speaker, US National Academy of Sciences Science and Entertainment Exchange, Los Angeles CA  
5th Annual Raniyah Ramadan Distinguished Lecture, University of Oklahoma Health Sciences Center, Oklahoma City OK  
Keynote talk, Gordon Research Conference on Microbial Stress Response, South Hadley, MA
- 2017 Opening Keynote, 29<sup>th</sup> Buffalo Conference on Microbial Pathogenesis, Buffalo NY;  
Neil Groman Lecturer, University of Washington;  
Keynote Address, Microbiotec-2017, Porto Portugal  
Keynote Address, Antimicrobials and Resistance: Opportunities and Challenges, Santa Fe NM  
Keynote Address, 20th Lancefield International Symposium on Streptococci and Streptococcal Diseases, Fiji
- 2018 Keynote Speaker, International Symposium Frontiers in Microbiology, Guangzhou, China  
Session Chair, Streptococcal Biology GRC, Sunday River ME  
Platform Lecture, Cornea and Ocular Surface Biology GRC, Ventura CA
- 2019 Keynote Speaker, Mark Wilson Conference on Oral Microbiology, Duck Key FL  
Keynote Speaker, Cold Spring Harbor Asia Bacterial Infection and Host Defense, Shanghai, China

## **Part II: Research, Teaching, and Clinical Contributions**

### **A. Narrative report of Research, Teaching, and Clinical Contributions**

My laboratory focuses on developing new ways to prevent and treat multidrug resistant infections. We take the general view that the core genome of microbes that have emerged as leading causes of multidrug resistant infection, including enterococci, staphylococci, and streptococci, evolved to enable a stable quasi-commensal relationship with the host. However, this stability has been undermined mainly by anthropogenic forces, including the urbanization of humans (facilitating human-to-human transmission) and the introduction of antibiotics (destabilizing commensal flora and undermining intrinsic colonization resistance). We identify

the compensatory changes in the genomes of these bacteria, often reflected in the changing complement of mobile elements, that have resulted in strains that now resist antibiotics, are highly hospital adapted, and are easily transmitted between humans. These studies involve elements of epidemiology, molecular genetics and comparative genomics, cell biology and pathogenesis.

We were part of the team that described the first vancomycin-resistant *Enterococcus* isolated in the US, which then led us to discover new variable traits, including a capsule locus and a pathogenicity island among hospital ward endemic strains, and the ability of enterococci to transfer large sections of their genomes moving these traits between strains. The pathogenicity island harbors over 120 genes, including a new adhesin that contributes to colonization of the bladder and biofilm formation, and a structurally and functionally novel cytolysin toxin. We have shown that the cytolysin consists of two dissimilar, post-translationally modified peptides, and expression of this toxin is regulated by a novel system that permits the microbe to sense target cells in the environment.

To study the subtle pathogenesis of these largely rogue commensals, we developed several infection and colonization models. We defined the microbiome of *Drosophila*, which includes enterococci as a native member of the flora. We also developed a highly sensitive model for studying the pathogenesis of enterococcal and staphylococcal infection in mice, utilizing the vitreous chamber of the eye. This model permits a small inoculum to be used, allowing for a quorum to develop *in situ*. Because the medium is clear and easily visualized, this model permits direct, real time examination of the infection in a live animal. This model allowed us to demonstrate that in the absence of cytolysin expression, *E. faecalis* infection resulted in substantial inflammation but no direct tissue damage, and could be successfully treated. However, if the strain expressed cytolysin, no therapeutic regimen mitigated the precipitous course of infection. Similar types of analysis have been made for staphylococci.

Because microorganisms in biofilms are highly resistant to antibiotic killing, we also have investigated the molecular biology of biofilm formation by gram positive cocci. We developed a protracted biofilm model that examined gene expression over the course of 30 days. This study led us to observe that there is a dramatic bacterial population crash after about 1 week in this model, followed by the outgrowth of very stable architectural structures that supported increased numbers of bacteria for the duration of the study. These observations led us to propose a new model for biofilm formation by non-motile gram positive cocci that involves programmed fratricide and the incorporation of released DNA into the biofilm structure.

To promote research nationally and internationally into these leading causes of invasive infection, which are often refractory to treatment, we launched the International ASM Conference on Enterococci series, organized the main textbook on the subject, and have organized international conferences on streptococcal genetics and functional genomics.

With the advent of high throughput genomics, we now have a tremendously powerful tool for determining how the use of antibiotics over the past 75 years has impacted the organisms under study. We headed up multi-institutional consortia to examine and perform a comparative analysis of the genomes of the first vancomycin resistant *S. aureus* (VRSA) strains, and of vancomycin

resistant enterococci (VRE). Both of these studies led to fundamentally new understandings of the evolution of these microbes under antibiotic selection pressure. Moreover, using these tools we are also identifying new opportunities for targeting these microbes with new drugs, including inhibitors of the synthesis of important cell wall components.

## **B. Funding Information (*Active grants italicized*)**

1984	P.I., University of Oklahoma Health Sciences Center Graduate College, Derivation of positive selection vehicles for Tn916 delivery
1985	P.I., Univ. of Okla. Health Sciences Center College of Medicine, System development for transposon analysis of genes associated with gram-positive bacterial virulence
1986-1989	P.I., N.S.F., RII 8610676, Characterization of <i>Bacillus cereus</i> cytolysins and their genetic determinants
1987	P.I., Presbyterian Health Foundation, <i>Streptococcus faecalis</i> hemolysin/bacteriocin: Physical structure, activity and genetics
1988	P.I., Presbyterian Health Foundation, <i>Streptococcus faecalis</i> virulence: hemolysin/bacteriocin
1988	P.I., Conoco, Inc, Regulation of hemolysin expression
1988-1991	P.I., Okla. Cent Adv Sci Tech, HRL-036, Transposon mutagenesis of gram positive pathogens
1988-1992	Co-I., N.I.H., RO1 HL41200, Canine airway mucin: Molecular biology and regulation
1989-1990	P.I., Presbyterian Health Foundation Clinical Grant Program, Enterococcal regulation of oral ecology
1989-1990	P.I., Presbyterian Health Foundation Equipment Grant Program, Ultracentrifugation in molecular biology
1990-1991	P.I., Presbyterian Health Foundation, Molecular analysis of bacteriocin expression for regulation of oral ecology
1990-1992	P.I., N.I.H., FO5 TWO4498, Characterization of the <i>E faecalis</i> cytolysin
1990-1993	Co-I., OCAST, Molecular cloning of human tracheal mucins
1991	P.I., N.I.H., 1F06 TW01652, Characterization of a Novel Protein Secretion Pathway
1991-1994	P.I., Oklahoma Cent Adv Sci Tech, HRL-151, Characterization of a novel protein secretion pathway
1992-1993	P.I., Presbyterian Health Foundation, Role of toxins in endophthalmitis
1993-2001	Co-I., N.I.H./ NIAID, 1T32 AI07364, Molecular pathogenesis training program
1994	P.I., N.S.F., NSF MCB-9316724, Role of toxins in endophthalmitis” Presbyterian Health Foundation
1994	Co-I., N.I.H., R13 AI35586-01, IVth International ASM Conference on Streptococcal Genetics
1994-1996	P.I., USDA, #9403545, Structure/function relationships for the <i>Enterococcus faecalis</i> cytolysin
1995-1996	Co-I., NSF Infrastructure Program, Nucleotide sequencing core facility

1995-1999 Co-I., N.I.H., RO1 HL34012, Biochemistry of cystic fibrosis mucus secretions

1996-1998 P.I., USDA, Safe limits for lantibiotic engineering

1997-1998 P.I., Res. Prevent. Blindness, Molecular pathogenesis of infectious disease of the eye

1997-2001 Co-I., VA Merit Review System, Role of Enterococcus faecalis respiration in infection

1999-2003 P.I., N.I.H. /N.E.I., R01 EY11643-01A1, Adherence in keratitis

1999-2004 Co-I., National Eye Institute, 1P30EY12190, Core Grant for Vision Research

1999-2005 P.I., N.I.H. / NIDCR, NIH/NIDCR R01 DE13244-01, Oral Biofilms: Differential Display and Genetic Exchange

2000 P.I., NIDCR, R-13, 1st International ASM Conference on Enterococci

2003-2004 P.I., Research to Prevent Blindness, Inc, Senior Scientific Investigator Award

2003-2004 P.I., N.I.H., R21 AI054614-01, Resistant Enterococci in the GI Tract Consortium

2003-2008 P.I., N.I.H., C06 RR17598-01, Extramural research facilities improvement program

2004-2007 Co-I., Other, P20 RR020753, Blinding Eye Diseases

2005-2007 P.I., N.I.H., 1R21RR020596, Drosophila model of antibiotic resistant infection

2002-2008 P.I., N.I.H. R01 AI41108, Novel enterococcal toxin: regulation of expression

2007-2012 P.I., N.I.H. R01 EY017381, Adherence and Colonization in Keratitis

2008-2013 Co-I., N.I.H. R01 EY018850-01A1, Bacterial Interactions at The Ocular Surface

2011-2012 P.I. Bausch+Lomb, Inc. *Streptococcus pneumoniae* in Conjunctivitis

1989-2014 P.I., N.I.H. R01EY08289, Role of toxins in endophthalmitis

2013-2015 P.I. N.I.H. R21AI107248 Identification of infection-critical S. aureus traits by TnSeq

2013-2015 P.I. N.I.H. R21GM106337 Modeling CRISPR to Preserve Antibiotics

2007-2019 P.I., N.I.H. R01AI072360, E. faecalis Pathogenicity Island

2013-2020 P.I. N.I.H. R01AI108710 Enterococcal pathogenesis: Role of cytolysin

2014-2020 P.I., N.I.H. R01EY 024285 Molecular Basis for Ocular Surface Tropism in Conjunctivitis

2014-2016 P.I. Institut Merieux. Tn-seq for defining the gram positive resistome

**2019-2022 P.I. N.I.H. R21AI146715 New understanding of LTA as a determinant of daptomycin susceptibility in VRE E. faecium**

**2020-2024 P.I. N.I.H. R01EY031600 Determinants of Ocular Surface Biogeography**

**2022-2024 P.I. N.I.H. R21AI169730 The Role of Enterococcus Unique Hypothetical EF1909 in Intrinsic  $\beta$ -lactam Resistance**

**2009-2026 P.I. N.I.H. P01AI083214-01 Harvard-wide Project on Antibiotic Resistance**

## D. Report of Teaching

### 1. Local contributions

**b. Graduate Medical Courses**

1986- 1990	<u>Etiology and Pathogenesis of Disease, MS-2</u>		<i>contact time</i>	<i>prep time</i>
	Lecturer	125 Medical Students 20 Dental Students 20 Graduate Students	8 hours/year for 1 year(s)	16 hours/year for 1 year(s)
1986- 1992	<u>Basic Microbiology and Immunology, MI5243</u>		<i>contact time</i>	<i>prep time</i>
	Lecturer	12 Graduate Students	10 hours/year for 1 year(s)	20 hours/year for 1 year(s)
1986- 1995	<u>Microbial Genetics and Physiology, MI6223</u>		<i>contact time</i>	<i>prep time</i>
	Lecturer	6 Graduate Students	12 hours/year for 1 year(s)	24 hours/year for 1 year(s)
1986- 2000	<u>Laboratory Module Instruction, MS-2</u>		<i>contact time</i>	<i>prep time</i>
	Lecturer	16 Dental Students	50 hours/year for 1 year(s)	50 hours/year for 1 year(s)
1987- 1990	<u>Research Methods in Microbiology and Immunology, MI6330</u>		<i>contact time</i>	<i>prep time</i>
	Lecturer	10 Graduate Students	8 hours/year for 1 year(s)	16 hours/year for 1 year(s)
1992- 2004	<u>Medical Microbiology and Immunology, MS-2</u>		<i>contact time</i>	<i>prep time</i>
	Lecturer	125 Medical Students	8 hours/year for 1 year(s)	16 hours/year for 1 year(s)
1996- 2004	<u>Ophthalmology Resident Lectures</u>		<i>contact time</i>	<i>prep time</i>
	Lecturer	6 Residents	2 hours/year for 1 year(s)	4 hours/year for 1 year(s)
1999-	<u>Systemic Biology, Grad. Program In Biomedical Sci. (GPIBS-1)</u>			

2004			<i>contact time</i>	<i>prep time</i>
	Lecturer	24 Graduate Students	10 hours/year for 1 year(s)	20 hours/year for 1 year(s)
1999- 2004	<u>Microbial Pathogenesis (GPIBS-2)</u>			
			<i>contact time</i>	<i>prep time</i>
	Lecturer	12 Graduate Students	8 hours/year for 1 year(s)	16 hours/year for 1 year(s)
2008-Pres.	<u>Diverse Microbial Strategies for Metabolism, Pathogenesis, and Chemical Signaling (LifeSci 190r/Organism Evol Biol 290/Micro210; Harvard Faculty of Arts and Sciences)</u>			
			<i>contact time</i>	<i>prep time</i>
	Coordinator, lead lecturer	12 Graduate Students	36 hours/year for 1 year(s)	72 hours/year for 1 year(s)
	Student Evaluations: Ranked 5.0 [Excellent] on 1 – 5 scale			
2011 - Pres.	<u>Microbial Pathogens: Micro202; Harvard Medical School</u>			
			<i>contact time</i>	<i>prep time</i>
	Lecturer	10 Graduate Students	3 hours/year for 1 year(s)	16 hours/year for 1 year(s)
2012 – Pres.	<u>Microbiology: Chemistry, Ecology and Evolution: OEB290/Micro210; Harvard University and Harvard Medical School</u>			
			<i>contact time</i>	<i>prep time</i>
	Coordinator and Head Lecturer	20 Upper Level Undergraduate and Graduate Students	20 hours/year for 1 year(s)	50 hours/year for 1 year(s)

### **e. Advisory and Supervisory Responsibilities in Clinical or Laboratory Setting**

1988-2004 Graduate Students and Postdoctoral Research Associates for 100 hrs/year, Mentoring of Graduate Students to Special Recognition, University of Oklahoma Health Sciences Center, College of Medicine

- Cora M. Downs Award, ASM Missouri-Valley Branch, Armando Cruz-Rodz 1988
- Graduate College Award for Outstanding Clinical Research, Bradley D. Jett, 1989
- Wind River Award for Outstanding Research, Robert A. Segarra, 1990
- Cora M. Downs Runner-Up, ASM Missouri-Valley Branch, Robert A. Segarra, 1992
- Graduate College Award for Outstanding Research, Robert A. Segarra, 1992
- Robert M. Patnode Award for Outstanding Research, Robert A. Segarra, 1993
- Graduate College Award for Outstanding Basic Research, Charlie Bogie, 1995
- Graduate Student Association Award for Basic/Laboratory Research, Lynn E. Hancock 1998
- Oklahoma State Science Fair Recognition Award, Patrick Rodriguez, 1997
- National Science Fair Recognition Award, Patrick Rodriguez, 1998
- Robert A. Patnode Award for Outstanding Research, Lynn E. Hancock, 1999
- College of Medicine/Graduate Student Association Award for Outstanding Basic Research, Philip Coburn, 1998
- Beckman-Coulter Award for Outstanding Basic Research, Philip Coburn, 1999
- Graduate Student Association Award for Outstanding Basic Research, Philip Coburn, 2000
- Sigma Xi Award for Outstanding Basic Research, Brett D. Shepard, 1998
- Sigma Xi Award for Outstanding Basic Research, Brett D. Shpeard, 2000
- OUHSC Graduate College Award for Most Outstanding Dissertation, Lynn Hancock, 2002.
- Robert A. Patnode Award for Research, Phillip S. Coburn, 2004

1990-2000 Mentoring Junior Faculty for 100 hrs/year, Spawning of Projects to National Funding, University of Oklahoma Health Sciences Center, College of Medicine

- Mary C. Booth, Ph.D. "Characterization of the *E faecalis* cytolysin activator," F05 Fogarty International Center, 1990
- Mary C. Booth, Ph.D. "Staphylococcal virulence in endophthalmitis" R29 NIH/NEI 1996
- Mark M. Huycke, MD "Role of *Enterococcus faecalis* respiration in infection" VA Merit Review System, 1994, renewal 1997, 2002.
- Viswanathan Shankar, Ph.D. "New potential virulence factor in *E. faecalis*" R29 NIH/NIAID 1997, AHA 2001.
- Bradley D. Jett, Ph.D. "Host response in bacterial endophthalmitis" R29 NIH/NEI 1998
- Michelle C. Callegan, Ph.D. "Molecular pathogenesis of *Bacillus cereus* in endophthalmitis" 1997 T32 NIH/NEI
- Michelle C. Callegan, Ph.D. "Virulence in *Bacillus cereus* endophthalmitis" R01 NIH/NEI 2000



**g. Advisees and Trainees**

<i>Training Duration</i>	<i>Name</i>	<i>Current Position</i>
<u>Predoctoral</u>		
1985-1987	Richard L. Brooks, MS	Epidemiologist
1987-1994	Armando Cruz-Rodz, Ph.D.	Associate Professor, OSU Tech.
1988-1993	Robert A. Segarra, Ph.D.	Industry, Research Associate
1989-1993	Bradley D. Jett, Ph.D.	Professor, Oklahoma Baptist Univ
1992-1996	Charlie A. Bogie, MD, Ph.D.	Physician/Scientist, Dean McGee Eye Institute
1996-1998	Midge Carey, M	Other
1996-2000	Brett D. Shepard, MD, Ph.D.	Pediatrician, Mayo Clinic
1997-2002	Lynn E. Hancock, Ph.D.	Associate Professor, Kansas State Un
1998-2003	Michael Engelbert, MD, Ph.D.	Ophthalmologist, NYU
1998-2003	Phillip Coburn, MS, Ph.D.	Scientist, Dean McGee Eye Institute
2001-2007	Chris A. Cox, MS, Ph.D	Research Assistant Professor, Colo. School of Mines
2006-2011	Tania Ribeiro, MS, Ph.D.	Industry Scientist, Cell2B
2010-2013	Neuza Texiera, MS, Ph.D.	Unknown
2014	Nicoli Gelbuca Dabul, Ph.D.	Postdoctoral Research Associate, Univ. Sao Paulo, Sao Carlos
2014	Martje van Noorden, M.S.	Univ. Utrecht
2015	Sophia Rigvava, Ph.D.	Scientist, Eliava Institute, Tbilisi, Georgia
2015	Natia Karumidze, Ph.D.	Eliava Institute, Tbilisi, Georgia
2015-2016	Suelen Mello, Ph.D.	Univ. Sao Paulo, Sao Carlos
2016-2017	Gabriela da Cunha, Ph.D.	Univ. Porto Alegre
2016-2017	Janira Pichula, Ph.D.	Univ. Porto Alegre
2021 – Present	Andrew Van Camp, B.A	Harvard University
<u>Postdoctoral</u>		
1988-1990	Caroline Thomson, Ph.D.	Other
1990-1994	Mary C. Booth, Ph.D.	Lecturer, Athlone Institute of Technology, Ireland
1993-1996	Nathan Shankar, Ph.D.	Professor and Associate Dean, University of Oklahoma Health Sciences Center
1996-1999	Michelle Callegan, Ph.D	Professor, University of Oklahoma Health Sciences Center
1997-1999	Rajeshwari Atkuri, MD	Private Practice, NY
1999-2002	Pravina Srinivas, Ph.D.	Research Associate, Oklahoma Medical Research Foundation

2000-2003	Wolfgang Haas, Ph.D.	Scientist, Bausch & Lomb
2001-2002	Jean Elmendorff, Ph.D.	Scientist, Genzyme
2002-2007	Christopher Pillar, Ph.D.	CSO, Micromyx Inc.
2004-2006	Karen Carniol, Ph.D.	Cell, Editorial staff
2005-2007	Amy Spoering, Ph.D.	Scientist, NovoBiotic
2004-2008	Shonna McBride, Ph.D.	Assistant Professor, Emory Univ.
2006-2007	Dianne Mitchell, Ph.D.	Other
2003-2010	Marcus Rauch, Ph.D.	Scientist, Johnson & Johnson
2004-2010	Janet Manson, Ph.D.	Touch Group PLC, London, UK
2005-2010	Susan Heimer, Ph.D.	Assistant Professor, Touro Univ. CA
2008-2010	Takashi Suzuki, MD, Ph.D.	Assistant Professor, Ehime University
2008-2011	Lilia Macovei, Ph.D.	Assistant Scientist, Forsyth Dental Inst.
2008-2012	Kelli Palmer, Ph.D.	Assistant Professor, UT Dallas
2009-2013	Veronica Kos, Ph.D.	Assistant Scientist, AstraZeneca
2009 –2011	Paul Himes, Ph.D.	Research Assistant, Univ. Kentucky
2010-2011	Takako Inoue, MD, Ph.D.	Assistant Professor, Nagoya City University
2011-2014	Matthew Ramsey, Ph.D.	Research Associate, Forsythe Dental Inst.
2011-2014	Ariel Weinberger, Ph.D.	Research Associate, Harvard University
2011-2015	Michael Valentino, Ph.D.	Assistant Scientist, Exosome Dx
2011-2019	Francois Lebreton, Ph.D.	Walter Reed Army Institute of Research
2013-2018	Daria Van Tyne, Ph.D.	Assistant Professor, Univ. Pitt.
2013-2017	Melissa J. Martin, Ph.D.	ASM Whitehouse Fellow
2013-2019	Paulo J.M. Bispo, Ph.D.	Assistant Professor, HMS
2015-2018	Anthony M. Gaca, Ph.D.	Investigator, Broad Institute
2016-2019	Julia Schwartzman, Ph.D.	Research Associate, MIT
2016	Lara Menzes, Ph.D.	Postdoctoral Research Associate University of Sao Paulo
2016-2018	Elizabeth Selleck Fiore, Ph.D.	Scientist, PhAst Technology
2017-2019	Katharina Schaufler, DVM, Ph.D.	Assistant Professor, University Greifswald, Germany
2018-Present	Suelen M. Mello, Ph.D.	In progress
2021 – Present	Natia Karumidze, Ph.D.	In progress
2022 – Present	Janira Prichula, Ph.D.	In progress
2022 – Present	Lara Mendes de Ameida, Ph.D.	In progress

## 2. Non-Local Invited Presentations (Keynote lectures listed in Honors above)

2015 – 2016 14 Invited seminars at various national and international Universities

2014      Rockefeller University, NY

2013      Thygeson Lecture, OMIG/AAO New Orleans, LA

2013      20<sup>th</sup> Anniversary of ZINF, Universitaet Wuerzburg, Germany

2013      Institute Merieux, Annecy, France

2013      Kalamazoo College, Kalamazoo, MI

2013      American Association of Endodontists, Dallas, TX

2012      Brown University, Providence, RI

2012      University of Oklahoma Health Sciences Center, OK

2012      Kansas State University, Manhattan, KS

2012      Lake Arrowhead Conference on Microbial Genomics, Lake Arrowhead, CA

2012      Yale University, New Haven, CT

2012      University of Chicago, IL

2012      Gordon Conference on Corneal Biology and Disease, Ventura, CA

2011      Pennsylvania State University, PA

2011      Wellcome Trust Sanger Center Applications of Genomic Technologies to Health  
Care Associated Infections, Hinxton, UK

2011      Int. Soc. Contact Lens Research, Napa Valley, CA

2011      University of Washington, Seattle WA

2011      Rockefeller University, NY

2011      100<sup>th</sup> Anniversary of the Combined Dutch Societies for Microbiology, Papendal  
Ctr., The Netherlands

2011      University of Texas Medical Center, Houston, TX

2010      University Sao Paulo, Riberao Preto, Brazil

2010      1<sup>st</sup> Agean Conf. on Model Host Systems, Heraklion, Crete

2010      4<sup>th</sup> Int. ASM Conf. Enterococci, Portland, OR

2010      Int. Cong. Eye Research, Montreal, C

2010      Wellcome Trust Sanger Center Advanced Course on Genomics of Pathogens,  
Hinxton, UK

2010      ARVO Symposium on Infectious Diseases of the Eye, Ft. Lauderdale, FL

2010      American Society for Microbiology, Symposium on Ocular Infection,  
Philadelphia, PA

2010      Technischen Universität München, Munich, Germany

2009      Institut Pasteur, Conference de lancement du Domaine d'Intérêt Majeur Maladies  
infectieuses, parasitaires et nosocomiales émergentes, Paris, France

2009      European Association for Vision and Eye Research, Portoroz, Slovenia

2009      Japanese Ophthalmological Society, Tokyo

2009      1<sup>st</sup> Joint ARVO/JOS Conference, Tokyo

2009      University Illinois Chicago

2009      Gordon Conference, Microbial Adhesion and Cell Signaling, Newport RI

2009      University of Maryland, College Park, MD

2009      University of Rochester, Rochester NY

2009      Ohio State University, Columbus OH

2009      Medical College of Wisconsin, Milwaukee, WI

2008      ARVO Symposium on Infectious Diseases, Ft. Lauderdale, FL

2008      ASM Regional Meeting, Philadelphia, PA

2008 Joint Meeting of the European Academies of Science, Berlin Germany  
 2008 University of Alberta, University of Calgary Conference on Infectious Diseases, Banff CA  
 2008 Emory University, Atlanta GA  
 2008 Association for Research in Vision and Ophthalmology, Ft. Lauderdale FL  
 2007 University of Texas, Austin TX  
 2007 Juntendo University, Japan  
 2007 National Institutes of Health Rocky Mountain National Laboratories  
 2007 Tufts Sackler School of Medicine  
 2007 University of Wuerzburg  
 2007 European Commission External Advisory Committee on Pathogenomics  
 2007 University of Missouri Kansas City  
 2007 University of Louisville  
 2007 University of Maryland, Baltimore  
 2007 International Society for Contact Lens Research, Whistler  
 2007 Tear Film and Ocular Surface Society, Taormina Italy  
 2007 Progress in Pathogenomics and Vaccine Development, Wuerzburg, Germany  
 2006 Gordon Research Conference on Microbial Toxins  
 2006 Gordon Research Conference on Bacterial Cell Surface  
 2006 Chron's and Colitis Foundation of America, St. Petersburg  
 2006 University of Caen  
 2006 Wake Forest University, Winston-Salem NC  
 2006 University of Texas Houston TX  
 2006 Massachusetts Eye and Ear Infirmary, Boston MA  
 2006 International Society for Eye Research, Buenos Aires Argentina  
 2005 Dartmouth University, Hanover NH  
 2005 Microbial Sciences Initiative, Harvard University, Cambridge MA  
 2005 International Union of Microbiological Societies, San Francisco CA  
 2005 Molecular Pathogenesis of Inflammatory and Infectious Eye Research, Cleveland OH  
 2005 Albert Einstein College of Medicine of Yeshiva University, New York NY  
 2005 IBET/University of Lisbon, Portugal  
 2005 Awaji Conference on Infection and Immunity, Awaji Japan  
 2005 International Society for Contact Lens Research, Coolum, Australia  
 2005 International Conference on Eye Research, Sydney, Australia  
 2005 Prokagen 2005, Göttingen, Germany  
 2005 DFG Conference on Pathogenesis, Würzburg, Germany  
 2005 Molecular Pathogenesis of Inflammatory and Infectious Eye Disease, Sydney, Australia  
 2004 4th International Tear Film and Ocular Surface Conference, Puerto Rico  
 2004 Boston University, Boston MA  
 2004 Harvard University, Boston MA  
 2004 Northeastern University, Boston MA  
 2004 University of Virginia, VA  
 2004 University of North Carolina, Chapel Hill NC  
 2003 University of Michigan, Ann Arbor MI

2003 Dartmouth College, Hanover NH  
 2003 University of Wuerzburg, Wuerzburg Germany  
 2002 Gordon Research Conference on Microbial Toxins, NH  
 2002 Emory University, Atlanta GA  
 2002 University of Maryland, Baltimore MD  
 2002 Medical Biofilms 2002, Tokyo Japan  
 2002 International Symposium on Plasmids, Genome Plasticity, and Bacterial Pathogenicity, Wuerzburg, Germany  
 2001 Baylor College of Medicine, Houston TX  
 2001 Washington University, St. Louis MO  
 2001 Harvard/Massachusetts General Hospital, Boston MA  
 2001 Scientific Symposium in Honor of William C. Branche Jr., NIH-CSR, Bethesda MD  
 2001 101st Annual Meeting American Society for Microbiology, Orlando FL  
 2001 European Society for Ophthalmology (SOE) Stockholm Sweden  
 2001 University of Texas Southwestern Medical School, Dallas TX  
 2000 University of South Dakota Medical School, Vermillion SD  
 2000 National Institute for Dental Research, NIH, Bethesda MD  
 2000 Institut Pasteur, Paris France  
 2000 Int. Union of Microbiological Societies, Paris France  
 2000 Institut für Genetik und Mikrobiologie der Universität Würzburg, Würzburg, Germany  
 1999 3rd International Workshop on Lantibiotics, Blaubeuren, Germany  
 1999 University of Michigan, Ann Arbor, MI  
 1999 Oklahoma State University, Stillwater OK  
 1999 Universite d'Auvergne, Clermont-Ferrand France  
 1999 Rockefeller University NY  
 1999 Rio Grand Branch ASM, El Paso TX  
 1999 University of Kansas Medical Center KS  
 1999 Microorganismes Responsables des Infections Nosocomiales, Institut Pasteur Paris France  
 1998 Research to Prevent Blindness Science Writers Symposium, Orlando FL  
 1998 2nd Workshop on Pore-forming Toxins, Mainz Germany  
 1998 ASM'98 Colloquium: Global Impact of Antibiotic Resistance, Washington DC  
 1998 Infectious Disease Society of America, Denver CO  
 1998 Keynote Address, 2nd International Conference on Ocular Infection, Munich Germany  
 1997 Association for Research in Vision and Ophthalmology, Ft. Lauderdale FL  
 1997 3rd International ASM Symposium on Streptococcal Genetics, Minneapolis MN  
 1996 2nd International Workshop on Lantibiotics, Niemigen Netherlands  
 1996 Zentral Institut für Mikrobiologie und Experimentelle Therapie der Akademie der Wissenschaften, Jena Germany  
 1994 4th International ASM Symposium on Streptococcal Genetics, Santa Fe NM  
 1993 Universität Köln, Hygienisches Institut, Cologne Germany

1993 – 1996

Universidad Autonoma Guadalajara, Guadalajara, Mexico (Partners of the Americas Medical School) lecturer

1992 University of Munich, Munich, Germany, 1992

1992 92nd General Meeting of the American Society for Microbiology, New Orleans LA

1990 H. Allen Chapman Research Institute of Medical Genetics, Tulsa OK

1988 Mid-America Molecular Biology Colloquium, Nucleotide Sequencing Workshop, Shangri-La, Afton, OK

### **Part III: Bibliography**

#### **Original Articles (*\*Most Important*)**

1. Behnke D, Gilmore MS. Location of antibiotic resistance determinants, copy control, and replication functions on the double-selective streptococcal cloning vector pGB301. *Mol Gen Genet.* 1981;184(1):115-20.
2. Behnke D, Gilmore MS, Ferretti JJ. Plasmid pGB301, a new multiple resistance streptococcal cloning vehicle and its use in cloning of a gentamicin/kanamycin resistance determinant. *Mol Gen Genet.* 1981;182(3):414-21.
3. Gilmore, MS, Behnke, D, Ferretti, JJ. Evolutionary relatedness of MLS resistance and replication function sequences on streptococcal antibiotic resistance plasmids. *Microbiology-1982.* 1982.
4. Gilmore, MS, Gilmore, KS, Goebel, W. A new “ordered” DNA sequencing strategy based on a novel method for the rapid purification of near milligram quantities of a cloned restriction fragment. *Gene Anal Techniques.* 1985;2:108-114.
5. Gilmore MS. Molecular cloning of genes encoding gram-positive virulence factors. *Curr Top Microbiol Immunol.* 1985;118:219-234.
6. Rocourt, J, Gilmore, MS, Goebel, W, Seeliger, HPR. DNA relatedness among *Listeria monocytogenes* and *Listeria innocua* bacteriophages. *Sys Appl Microbiol.* 1986;8:42-47.
7. Chakraborty, T, Gilmore, M, Hacker, J, Hule, B, Kathariou, S, Knapp, S, Kreft, J, Muller, B, Leimeister, M, Parrisius, J, Wagner, W, Goebel, W. Genetic approaches to study haemolytic toxins in bacteria. *Zentralbl Bakteriol Mikrobiol Hyg I Abt Supp.* 1986;15:241-252.
8. Gradus, MS, Lerner, M, Gilmore, MS. An isolation method of DNA from *Pneumocystis carinii*: A quantitative comparison to known parasitic protozoan DNA. *Comp Biochem Physiol.* 1988;89B:75-77.
9. Gilmore MS, Cruz-Rodz AL, Leimeister-Wächter M, Kreft J, Goebel W. A *Bacillus cereus* cytolytic determinant, cereolysin AB, which comprises the phospholipase C and sphingomyelinase genes: nucleotide sequence and genetic linkage. *J Bacteriol.* 1989;171(2):744-53.
10. Benjamin D, Hartmann DP, Bazar LS, Jacobson RJ, Gilmore MS. Human B cell lines can be triggered to secrete an interleukin 2-like molecule. *Cell Immunol.* 1989;121(1):30-48.

11. Sahn DF, Kissinger J, Gilmore MS, Murray PR, Mulder R, Solliday J, Clarke B. In vitro susceptibility studies of vancomycin-resistant *Enterococcus faecalis*. *Antimicrob Agents Chemother.* 1989;33(9):1588-91.
12. Ike Y, Clewell DB, Segarra RA, Gilmore MS. Genetic analysis of the pAD1 hemolysin/bacteriocin determinant in *Enterococcus faecalis*: Tn917 insertional mutagenesis and cloning. *J Bacteriol.* 1990;172(1):155-63.
13. Cruz-Rodz AL, Gilmore MS. High efficiency introduction of plasmid DNA into glycine treated *Enterococcus faecalis* by electroporation. *Mol Gen Genet.* 1990;224(1):152-4.
14. Jett BD, Gilmore MS. The activity of *Enterococcus faecalis* pAD1 encoded hemolysin/bacteriocin extends to pathogenic oral streptococci. *J Dent Res.* 1990;69(10):1640-5.
15. Gilmore MS, Segarra RA, Booth MC. An HlyB-type function is required for expression of the *Enterococcus faecalis* hemolysin/bacteriocin. *Infect Immun.* 1990;58(12):3914-23.
16. Segarra RA, Booth MC, Morales DA, Huycke MM, Gilmore MS. Molecular characterization of the *Enterococcus faecalis* cytolysin activator. *Infect Immun.* 1991;59(4):1239-46.
17. Haglund LA, Flournoy DJ, Gilmore MS, Huycke MM. *Enterococcus*: an old pathogen with new tricks. *J Okla State Med Assoc.* 1991;84(7):305-9.
18. Huycke MM, Spiegel CA, Gilmore MS. Bacteremia caused by hemolytic, high-level gentamicin-resistant *Enterococcus faecalis*. *Antimicrob Agents Chemother.* 1991;35(8):1626-34.
19. Virmani AK, Shankar V, Gilmore MS, Graves DC, Sachdev GP. Translation of messenger RNA from canine tracheal epithelial cells: identification of mucin core protein. *Am J Respir Cell Mol Biol.* 1991;5(2):149-54.
20. Gilmore, MS, Booth, MC, Huycke, MM, Jensen, HG, Jett, BD, Segarra, RA. The *Enterococcus faecalis* cytolysin determinant and its contribution to disease. *New Perspectives on Streptococci and Streptococcal Infections.* 1992;Supp 22:357-360.
21. Stevens SX, Jensen HG, Jett BD, Gilmore MS. A hemolysin-encoding plasmid contributes to bacterial virulence in experimental *Enterococcus faecalis* endophthalmitis. *Invest Ophthalmol Vis Sci.* 1992;33(5):1650-6.
22. Zarlenga LJ, Gilmore MS, Sahn DF. Effects of amino acids on expression of enterococcal vancomycin resistance. *Antimicrob Agents Chemother.* 1992;36(4):902-5.
23. Jett BD, Jensen HG, Nordquist RE, Gilmore MS. Contribution of the pAD1-encoded cytolysin to the severity of experimental *Enterococcus faecalis* endophthalmitis. *Infect Immun.* 1992;60(6):2445-52.
24. Hynes WL, Ferretti JJ, Gilmore MS, Segarra RA. PCR amplification of streptococcal DNA using crude cell lysates. *FEMS Microbiol Lett.* 1992;73(1-2):139-42.
25. Huycke MM, Gilmore MS, Jett BD, Booth JL. Transfer of pheromone-inducible plasmids between *Enterococcus faecalis* in the Syrian hamster gastrointestinal tract. *J Infect Dis.* 1992;166(5):1188-91.
26. Shankar V, Tan S, Gilmore MS, Sachdev GP. Molecular cloning of the carboxy terminus of a canine tracheobronchial mucin. *Biochem Biophys Res Commun.* 1992;189(2):958-64.
27. Tan S, Shankar V, Gilmore MS, Sachdev GP. Nucleotide sequence of a cDNA for canine

- beta-spectrin reveals high evolutionary conservation. *Biochim Biophys Acta*. 1993;1172(1-2):217-9.
28. Sahm DF, Gilmore MS. Transferability and genetic relatedness of high-level gentamicin resistance among enterococci. *Antimicrob Agents Chemother*. 1994;38(5):1194-6.
  29. Shankar V, Gilmore MS, Elkins RC, Sachdev GP. A novel human airway mucin cDNA encodes a protein with unique tandem-repeat organization. *Biochem J*. 1994;300 ( Pt 2):295-8.
  30. Jett BD, Huycke MM, Gilmore MS. Virulence of enterococci. *Clin Microbiol Rev*. 1994;7(4):462-78.
  31. Gilmore MS, Segarra RA, Hall, Booth MC, Bogie CP, Hall LR, Clewell DB. Genetic structure of the *Enterococcus faecalis* plasmid pAD1-encoded cytolytic toxin system and its relationship to lantibiotic determinants. *J Bacteriol*. 1994;176(23):7335-44.
  32. Sahm DF, Gilmore MS. Distribution and spread of high-level aminoglycoside resistance determinants among enterococci. *Dev Biol Stand*. 1995;85:99-105.
  33. Shepard BD, Gilmore MS. Electroporation and efficient transformation of *Enterococcus faecalis* grown in high concentrations of glycine. *Methods Mol Biol*. 1995;47:217-26.
  34. Jett BD, Jensen HG, Atkuri RV, Gilmore MS. Evaluation of therapeutic measures for treating endophthalmitis caused by isogenic toxin-producing and toxin-nonproducing *Enterococcus faecalis* strains. *Invest Ophthalmol Vis Sci*. 1995;36(1):9-15.
  35. Huycke MM, Gilmore MS. Frequency of aggregation substance and cytolysin genes among enterococcal endocarditis isolates. *Dev Biol Stand*. 1995;85:47-50.
  36. Bogie CP, Hancock LE, Gilmore MS. Structure and mutagenesis of *Enterococcus faecalis* cytolysin operon and its relationship to those encoding lantibiotics. *Dev Biol Stand*. 1995;85:627-34.
  37. Shankar V, Gilmore MS, Sachdev GP. Further evidence that the human MUC2 gene transcripts in the intestine and trachea are identical. *Biochem J*. 1995;306 ( Pt 1):311-2.
  38. Huycke MM, Joyce WA, Gilmore MS. *Enterococcus faecalis* cytolysin without effect on the intestinal growth of susceptible enterococci in mice. *J Infect Dis*. 1995;172(1):273-6.
  39. Booth MC, Atkuri RV, Nanda SK, Iandolo JJ, Gilmore MS. Accessory gene regulator controls *Staphylococcus aureus* virulence in endophthalmitis. *Invest Ophthalmol Vis Sci*. 1995;36(9):1828-36.
  40. Huycke MM, Gilmore MS. Frequency of aggregation substance and cytolysin genes among enterococcal endocarditis isolates. *Plasmid*. 1995;34(2):152-6.
  41. Gilmore MS, Skaugen M, Nes I. Genetics and molecular biology of *Enterococcus faecalis* cytolysin and *Lactobacillus Lactocin*. *Antonie Van Leeuwenhoek*. 1996;69(2):129-38.
  42. Booth MC, Bogie CP, Sahl HG, Siezen RJ, Hatter KL, Gilmore MS. Structural analysis and proteolytic activation of *Enterococcus faecalis* cytolysin, a novel lantibiotic. *Mol Microbiol*. 1996;21(6):1175-84.
  43. Shankar V, Gilmore MS. Characterization of the *Enterococcus faecalis* alpha C protein homolog. Evidence for the expression of alternate forms in commensal and infection derived isolates. *Adv Exp Med Biol*. 1997;418:1045-8.
  44. Hancock LE, Gilmore MS. Identification of a highly conserved lipopolysaccharide (LPS) modification operon in *Enterococcus faecalis*. *Adv Exp Med Biol*. 1997;418:1049-50.



45. Shepard BD, Gilmore MS. Identification of virulence genes in *Enterococcus faecalis* by differential display polymerase chain reaction. *Adv Exp Med Biol.* 1997;418:777-9.
46. Huycke MM, Joyce WA, Gilmore MS. In vivo survival of *Enterococcus faecalis* is enhanced by extracellular superoxide production. *Adv Exp Med Biol.* 1997;418:781-4.
47. Jett BD, Parke DW, Booth MC, Gilmore MS. Host/parasite interactions in bacterial endophthalmitis. *Zentralbl Bakteriologie.* 1997;285(3):341-67.
48. Shankar V, Pichan P, Eddy RL, Tonk V, Nowak N, Sait SN, Shows TB, Schultz RE, Gotway G, Elkins RC, Gilmore MS, Sachdev GP. Chromosomal localization of a human mucin gene (MUC8) and cloning of the cDNA corresponding to the carboxy terminus. *Am J Respir Cell Mol Biol.* 1997;16(3):232-41.
49. Booth MC, Cheung AL, Hatter KL, Jett BD, Callegan MC, Gilmore MS. Staphylococcal accessory regulator (sar) in conjunction with agr contributes to *Staphylococcus aureus* virulence in endophthalmitis. *Infect Immun.* 1997;65(4):1550-6.
50. Jett BD, Hatter KL, Huycke MM, Gilmore MS. Simplified agar plate method for quantifying viable bacteria. *Biotechniques.* 1997;23(4):648-50.
51. Booth MC, Hatter KL, Miller D, Davis J, Kowalski R, Parke DW, Chodosh J, Jett BD, Callegan MC, Penland R, Gilmore MS. Molecular epidemiology of *Staphylococcus aureus* and *Enterococcus faecalis* in endophthalmitis. *Infect Immun.* 1998;66(1):356-60.
52. Coburn PS, H-G Sahl, RJ Siezen, and MS Gilmore. The *Enterococcus faecalis* cytolysin: a novel toxin with roots in the lantibiotic family. *Bacterial Protein Toxins, Zent. bl. Bakteriologie.* 1998;Suppl. 29.:409-410.
53. Jett BD, Atkuri RV, Gilmore MS. *Enterococcus faecalis* localization in experimental endophthalmitis: role of plasmid-encoded aggregation substance. *Infect Immun.* 1998;66(2):843-8.
54. Huycke MM, Sahm DF, Gilmore MS. Multiply resistant enterococci: The nature of the problem and an agenda for the future. *Emerg Infect Dis.* 1998;4(2):239-49.
55. Shankar V, Baghdayan AS, Huycke MM, Lindahl G, Gilmore MS. Infection-derived *Enterococcus faecalis* strains are enriched in esp, a gene encoding a novel surface protein. *Infect Immun.* 1999;67(1):193-200.
56. Shepard BD, Gilmore MS. Identification of aerobically and anaerobically induced genes in *Enterococcus faecalis* by random arbitrarily primed PCR. *Appl Environ Microbiol.* 1999;65(4):1470-6.
57. Haas W, Gilmore MS. Molecular nature of a novel bacterial toxin: the cytolysin of *Enterococcus faecalis*. *Med Microbiol Immunol (Berl).* 1999;187(4):183-90.
58. Gilmore MS, Hoch JA. Antibiotic resistance. A vancomycin surprise. *Nature.* 1999;399(6736):524-5, 527.
59. Coburn PS, Hancock LE, Booth MC, Gilmore MS. A novel means of self-protection, unrelated to toxin activation, confers immunity to the bactericidal effects of the *Enterococcus faecalis* cytolysin. *Infect Immun.* 1999;67(7):3339-47.
60. Callegan MC, Booth MC, Jett BD, Gilmore MS. Pathogenesis of gram-positive bacterial endophthalmitis. *Infect Immun.* 1999;67(7):3348-56.
61. Callegan MC, Jett BD, Hancock LE, Gilmore MS. Role of hemolysin BL in the pathogenesis of extraintestinal *Bacillus cereus* infection assessed in an endophthalmitis

- model. *Infect Immun.* 1999;67(7):3357-66.
62. Callegan MC, Booth MC, Gilmore MS. In vitro pharmacodynamics of ofloxacin and ciprofloxacin against common ocular pathogens. *Cornea.* 2000;19(4):539-45.
  63. Booth MC, Pence LM, Mahasreshti P, Callegan MC, Gilmore MS. Clonal associations among *Staphylococcus aureus* isolates from various sites of infection. *Infect Immun.* 2001;69(1):345-52.
  64. Mundy, L.M., D.F. Sahn, and M.S. Gilmore. Enterococcal virulence and antimicrobial resistance. *Clin. Microbiol.* 2001;13:513-522.
  65. Shankar N, Lockatell CV, Baghdayan AS, Drachenberg C, Gilmore MS, Johnson DE. Role of *Enterococcus faecalis* surface protein Esp in the pathogenesis of ascending urinary tract infection. *Infect Immun.* 2001;69(7):4366-72.
  66. Francia MV, Haas W, Wirth R, Samberger E, Muscholl-Silberhorn A, Gilmore MS, Ike Y, Weaver KE, An FY, Clewell DB. Completion of the nucleotide sequence of the *Enterococcus faecalis* conjugative virulence plasmid pAD1 and identification of a second transfer origin. *Plasmid.* 2001;46(2):117-27.
  67. Callegan MC, Parke DW, Gilmore MS. Corticosteroid and antibiotic therapy for bacillus endophthalmitis. *Arch Ophthalmol.* 2001;119(9):1391-3.
  68. Huycke MM, Moore D, Joyce W, Wise P, Shepard L, Kotake Y, Gilmore MS. Extracellular superoxide production by *Enterococcus faecalis* requires demethylmenaquinone and is attenuated by functional terminal quinol oxidases. *Mol Microbiol.* 2001;42(3):729-40.
  69. Callegan MC, Engelbert M, Parke DW, Jett BD, Gilmore MS. Bacterial endophthalmitis: epidemiology, therapeutics, and bacterium-host interactions. *Clin Microbiol Rev.* 2002;15(1):111-24.
  70. Archimbaud C, Shankar N, Forestier C, Baghdayan A, Gilmore MS, Charbonne F, Joly B. In vitro adhesive properties and virulence factors of *Enterococcus faecalis* strains. *Res Microbiol.* 2002;153 (2):75-80.
  71. Gentry-Weeks C, Coburn PS, Gilmore MS. Phages and other mobile virulence elements in gram-positive pathogens. *Curr Top Microbiol Immunol.* 2002;264(2):79-94.
  - \*72. **Haas W, Shepard BD, Gilmore MS. Two-component regulator of *Enterococcus faecalis* cytolysin responds to quorum-sensing autoinduction. *Nature.* 2002;415(6867):84-7.**
  73. Shepard BD, Gilmore MS. Antibiotic-resistant enterococci: the mechanisms and dynamics of drug introduction and resistance. *Microbes Infect.* 2002;4(2):215-24.
  - \*74. **Hancock LE, Gilmore MS. The capsular polysaccharide of *Enterococcus faecalis* and its relationship to other polysaccharides in the cell wall. *Proc Natl Acad Sci U S A.* 2002;99(3):1574-9.**
  75. Ruan X, Chodosh J, Callegan MC, Booth MC, Lee TD, Kumar P, Gilmore MS, Pereira HA. Corneal expression of the inflammatory mediator CAP37. *Invest Ophthalmol Vis Sci.* 2002;43(5):1414-21.
  76. Jett BD, Gilmore MS. Host-parasite interactions in *Staphylococcus aureus* keratitis. *DNA Cell Biol.* 2002;21(5-6):397-404.
  77. Leid JG, Costerton JW, Shirtliff ME, Gilmore MS, Engelbert M. Immunology of *Staphylococcal* biofilm infections in the eye: new tools to study biofilm endophthalmitis.

- DNA Cell Biol. 2002;21(5-6):405-13.
78. Callegan MC, Kane ST, Cochran DC, Gilmore MS. Molecular mechanisms of Bacillus endophthalmitis pathogenesis. DNA Cell Biol. 2002;21(5-6):367-73.
  79. Greenfield RA, Lutz BD, Huycke MM, Gilmore MS. Unconventional biological threats and the molecular biological response to biological threats. Am J Med Sci. 2002;323(6):350-7.
  - \*80. **Shankar N, Baghdayan AS, Gilmore MS. Modulation of virulence within a pathogenicity island in vancomycin-resistant Enterococcus faecalis. Nature. 2002;417(6890):746-50.**
  81. Gilmore MS. The molecular basis of antibiotic resistance: where Newton meets Darwin. Int J Med Microbiol. 2002;292(2):65.
  82. Shepard BD, Gilmore MS. Differential expression of virulence-related genes in Enterococcus faecalis in response to biological cues in serum and urine. Infect Immun. 2002;70(8):4344-52.
  83. Jett BD, Gilmore MS. Internalization of Staphylococcus aureus by human corneal epithelial cells: role of bacterial fibronectin-binding protein and host cell factors. Infect Immun. 2002;70(8):4697-700.
  84. Mylonakis E, Engelbert M, Qin X, Sifri CD, Murray BE, Ausubel FM, Gilmore MS, Calderwood SB. The Enterococcus faecalis fsrB gene, a key component of the fsr quorum-sensing system, is associated with virulence in the rabbit endophthalmitis model. Infect Immun. 2002;70(8):4678-81.
  85. Greenfield RA, Drevets DA, Gilmore MS. Anthrax. J Okla State Med Assoc. 2002;95(9):587-91.
  86. Callegan MC, Cochran DC, Kane ST, Gilmore MS, Gominet M, Lereclus D. Contribution of membrane-damaging toxins to Bacillus endophthalmitis pathogenesis. Infect Immun. 2002;70(10):5381-9.
  87. Gilmore MS, Ferretti JJ. Microbiology. The thin line between gut commensal and pathogen. Science. 2003;299(5615):1999-2002.
  88. Callegan MC, Kane ST, Cochran DC, Gilmore MS, Gominet M, Lereclus D. Relationship of plcR-regulated factors to Bacillus endophthalmitis virulence. Infect Immun. 2003;71(6):3116-24.
  89. Gilmore KS, Srinivas P, Akins DR, Hatter KL, Gilmore MS. Growth, development, and gene expression in a persistent Streptococcus gordonii biofilm. Infect Immun. 2003;71(8):4759-66.
  90. Hancock LE, Shepard BD, Gilmore MS. Molecular analysis of the Enterococcus faecalis serotype 2 polysaccharide determinant. J Bacteriol. 2003;185(15):4393-401.
  91. Coburn PS, Gilmore MS. The Enterococcus faecalis cytolysin: a novel toxin active against eukaryotic and prokaryotic cells. Cell Microbiol. 2003;5(10):661-9.
  92. Razeto A, Giller K, Haas W, Gilmore MS, Zweckstetter M, Becker S. Expression, purification, crystallization and preliminary crystallographic studies of the Enterococcus faecalis cytolysin repressor CylR2. Acta Crystallogr D Biol Crystallogr. 2004;60(Pt 4):746-8.

93. Engelbert M, Mylonakis E, Ausubel FM, Calderwood SB, Gilmore MS. Contribution of gelatinase, serine protease, and *fsr* to the pathogenesis of *Enterococcus faecalis* endophthalmitis. *Infect Immun.* 2004;72(6):3628-33.
94. Shankar N, Coburn P, Pillar C, Haas W, Gilmore M. 2004. Enterococcal cytolysin: activities and association with other virulence traits in a pathogenicity island. *Int J Med Microbiol.* 293(7-8):609-18.
95. Hufnagel M, Hancock LE, Koch S, Theilacker C, Gilmore MS, Huebner J. Serological and genetic diversity of capsular polysaccharides in *Enterococcus faecalis*. *J Clin Microbiol.* 2004;42(6):2548-57.
96. Pillar CM, Gilmore MS. Enterococcal virulence--pathogenicity island of *E. Faecalis*. *Front Biosci.* 2004;9:2335-46.
97. Rumpel S, Razeto A, Pillar CM, Vijayan V, Taylor A, Giller K, Gilmore MS, Becker S, Zweckstetter M. Structure and DNA-binding properties of the cytolysin regulator CylR2 from *Enterococcus faecalis*. *EMBO J.* 2004;23(18):3632-42.
98. Tendolkar PM, Baghdayan AS, Gilmore MS, Shankar N. Enterococcal surface protein, Esp, enhances biofilm formation by *Enterococcus faecalis*. *Infect Immun.* 2004;72(10):6032-9.
99. Carniol K, Gilmore MS. Signal transduction, quorum-sensing, and extracellular protease activity in *Enterococcus faecalis* biofilm formation. *J Bacteriol.* 2004;186(24):8161-3.
- \*100. ***Coburn PS, Pillar CM, Jett BD, Haas W, Gilmore MS. Enterococcus faecalis senses target cells and in response expresses cytolysin. Science. 2004;306(5705):2270-2. Rated by Faculty of 1000 as being in the top 2% of published articles in biology and medicine.***
101. Kobayakawa S and MS Gilmore. Biofilm formation on intraocular contact lens materials. *Current Eye Research.* 2005;30 (9):741-5.
102. Cox CR, Coburn PS, Gilmore MS. Enterococcal Cytolysin: A Novel Two Component Peptide System that Serves as a Bacterial Defense Against Eukaryotic and Prokaryotic Cells. *Curr Protein Pept Sci.* 2005;6(1):77-84.
103. Engelbert, M and MS Gilmore. Role of complement and Fas ligand in *S. aureus* endophthalmitis. *Invest. Ophthalmol. Vis. Sci.* 2005;46 (7):2479-86.
104. Gilmore MS and W Haas. The selective advantage of microbial fratricide. *Proc Natl Acad Sci U S A.* 2005;102(24):8401-2.
105. Camargo IL, MS Gilmore, AL Darini. Multilocus sequence typing and analysis of putative virulence factors in vancomycin-resistant and vancomycin-sensitive *Enterococcus faecium* isolates from Brazil. *Clin Microbiol Infect.* 2006;12:1123-30.
106. Manson J and MS Gilmore. Pathogenicity island integrase crosstalk: A potential new tool for virulence modulation. *Mol Microbiol.* 2006;61(3):555-9.
107. Spoering AL and MS Gilmore. Quorum sensing and DNA release in bacterial biofilms. *Curr Opin Microbiol.* 2006;9(2):133-7.
108. Gregory M, MS Gilmore, and MC Callegan. Role of Bacterial and Host Factors in Infectious Endophthalmitis. In: Niederkorn JY, Kaplan HJ (eds): *Immune Response and the Eye.* Chem. Immunol. Allergy. 2006;92(10):1-10.
109. Camargo IL, LM Dalla Costa, N Woodford, MS Gilmore, AL Darini. Sequence analysis of

- Enterococcus faecium strain 10/96A (VanD4), the original vancomycin-resistant E. faecium strain in Brazil. J Clin Microbiol. 2006;44(7):2635-7.
110. Callegan MC, MS Gilmore, M Gregory, RT Ramadan, BJ Wiskur, AL Moyer, JJ Hunt, and BD Novosad. Bacterial endophthalmitis: Therapeutic challenges and host-pathogen interactions. Prog Retin Eye Res. 2007;26(2):189-203.
  111. Blalock TD, Spurr-Michaud SJ, Tisdale AS, Heimer SR, Gilmore MS, Ramesh V, Gipson IK. Functions of MUC16 in corneal epithelial cells. Invest Ophthalmol Vis Sc. 2007;48(10):4509-18.
  112. McBride SM, VA Fischetti, DJ LeBlanc, RC Moellering, and MS Gilmore. Genetic diversity among Enterococcus faecalis. PLoS One. 2007;2(7):e582.
  113. Cox CR, MS Gilmore. Native microbial colonization of Drosophila and its use as a model of Enterococcus faecalis pathogenesis. Infect Immun. 2007;75(4):1565-76, cover.
  114. Gregory M, MC Callegan, MS Gilmore. Role of bacterial and host factors in infectious endophthalmitis. Chem Immunol Allergy. 2007;92:266-75.
  115. Whiston EA, Sugi N, Kamradt MC, Sack C, Heimer S, Engelbert M, Wawrousek EF, Gilmore MS, Ksander BR, Gregory MS. aB-Crystallin Protects Retinal Tissue During S. aureus-Induced Endophthalmitis. Infect Immun. 2008; 76(4):1781-90.
  116. Camargo IL, Gilmore MS. Staphylococcus aureus -- Probing for host weakness? J Bacteriol. 2008;190(7):2253-6.
  117. Demuth A, Aharonowitz Y, Bachmann TT, Blum-Oehler G, Buchrieser C, Covacci A, Dobrindt U, Emödy L, van der Ende A, Ewbank J, Fernández LA, Frosch M, García-Del Portillo F, Gilmore MS, Glaser P, Goebel W, Hasnain SE, Heesemann J, Islam K, Korhonen T, Maiden M, Meyer TF, Montecucco C, Oswald E, Parkhill J, Pucciarelli MG, Ron E, Svanborg C, Uhlin BE, Wai SN, Wehland J, Hacker J. 2008. Pathogenomics: an updated European Research Agenda. Infect Genet Evol. 2008;8(3):386-93.
  118. Ricciuto J, S Heimer, MS Gilmore and P Argüeso. Cell surface O-glycans limit *Staphylococcus aureus* adherence to corneal epithelial cells. Infect. Immun. 2008;76(11):5215-20.
  119. McBride SM, PS Coburn, AS Baghdayan, RJJ Willems, MJ Grande, N Shankar, and MS Gilmore. Variability and Polymorphisms in the Pathogenicity Island of *Enterococcus faecalis*. 2009; J. Bact. 191:3392-402.
  120. Yan X, Zhao C, Budin-Verneuil A, Hartke A, Rincé A, Gilmore MS, Auffray Y, Pichereau V. 2009. The (p)ppGpp synthetase RelA contributes to stress adaptation and virulence in *Enterococcus faecalis* V583. Microbiology. 2009 Oct;155(Pt 10):3226-37.
  121. Swoboda JG, Meredith TC, Campbell J, Brown S, Suzuki T, Bollenbach T, Malhowski AJ, Kishony R, Gilmore MS, Walker S. 2009. Discovery of a Small Molecule that Blocks Wall Teichoic Acid Biosynthesis in *Staphylococcus aureus*. ACS Chem Biol. 4:875-83 (including cover).
  122. Roux A, SM Payne, and MS Gilmore. 2009. Microbial Telesensing: Probing the environment for friends, foes and food from a distance (original concept paper). Cell Host Microbe. 20:115-24.
  123. Palmer KL, Carniol K, Manson JM, Heiman D, Shea T, Young S, Zeng Q, Gevers D, Feldgarden M, Birren B, Gilmore MS. 2010. High Quality Draft Genome Sequences of 28

- Enterococcus sp.* Isolates. J Bacteriol. 192(9):2469-70.
124. Heimer, SL, A Yamada, H Russell, and MS Gilmore. 2010. Response of corneal epithelial cells to *Staphylococcus aureus*. Virulence. 1:4, 223-235.
- \*125. **Manson JM, Hancock LE, Gilmore MS. 2010. Mechanism of chromosomal transfer of *Enterococcus faecalis* pathogenicity island, capsule, antimicrobial resistance, and other traits. Proc Natl Acad Sci U S A. 107:12269-12274**
126. Suzuki T, Yamada A, Gilmore MS. 2010. Host-pathogen interactions in the cornea. Jpn J Ophthalmol. 54(3):191-3.
127. Palmer KL, VN Kos, and MS Gilmore. 2010. Horizontal gene transfer and the genomics of enterococcal antibiotic resistance. Current Opinion in Microbiology, 13(5):632-9..
- \*128. **Palmer, KL and MS Gilmore. 2010. Multidrug resistant enterococci lack CRISPR-cas. mBio. 1(4):e00227-10.**
129. Klocke J, Barcia RN, Heimer S, Cario E, Zieske J, Gilmore MS, Ksander BR, Gregory M. 2011. Spontaneous bacterial keratitis in CD36 knockout mice. Invest Ophthalmol Vis Sci. 52(1):256-63.
130. Behlau I, Mukherjee K, Todani A, Tisdale AS, Cade F, Wang L, Leonard EM, Zakka FR, Gilmore MS, Jakobiec FA, Dohlman CH, Klibanov AM. 2011. Biocompatibility and biofilm inhibition of N,N-hexyl,methyl-polyethylenimine bonded to Boston Keratoprosthesis materials. Biomaterials. Dec;32(34):8783-96. PMID: 21903257
131. Michaux C, Sanguinetti M, Reffuveille F, Auffray Y, Posteraro B, Gilmore MS, Hartke A, Giard JC. 2011. SlyA is a transcriptional regulator involved in the virulence of *Enterococcus faecalis*. Infect Immun. 79(7):2638-45. PMID: 21536798
132. Suzuki T, Campbell J, Swoboda JG, Walker S, Gilmore MS. 2011. Role of wall teichoic acids in *Staphylococcus aureus* endophthalmitis. Invest Ophthalmol Vis Sci. 52(6):3187-92. PMID: 21345983
133. Suzuki T, Swoboda JG, Campbell J, Walker S, Gilmore MS. 2011. *In vitro* antimicrobial activity of wall teichoic acid biosynthesis inhibitors against *Staphylococcus aureus* isolates. Antimicrob Agents Chemother. 55(2):767-74. PMID: 21098254
134. Palmer KL, Daniel A, Hardy C, Silverman J, Gilmore MS. 2011. Genetic basis for daptomycin resistance in enterococci. Antimicrob Agents Chemother. 55(7):3345-56. PMID: 21502617
135. Rigottier-Gois L, Alberti A, Houel A, Taly JF, Palcy P, Manson J, Pinto D, Matos RC, Carrilero L, Montero N, Tariq M, Karsens H, Repp C, Kropec A, Budin-Verneuil A, Benachour A, Sauvageot N, Bizzini A, Gilmore MS, Bessières P, Kok J, Huebner J, Lopes F, Gonzalez-Zorn B, Hartke A, Serron P. 2011. Large-Scale Screening of a Targeted *Enterococcus faecalis* Mutant Library Identifies Envelope Fitness Factors. PLoS One. 2011;6(12):e29023.
- \*136. **Palmer KL, Godfrey P, Griggs A, Kos VN, Zucker J, Desjardins C, Cerqueira G, Gevers D, Walker S, Wortman J, Feldgarden M, Haas B, Birren B, Gilmore MS. 2012. Comparative Genomics of Enterococci: Variation in *Enterococcus faecalis*, Clade Structure in *E. faecium*, and Defining Characteristics of *E. gallinarum* and *E. casseliflavus*. mBio. 3: e00318-11.**
137. Campbell J, Singh AK, Swoboda JG, Gilmore MS, Wilkinson BJ, Walker S. 2012. An

- antibiotic that inhibits a late step in wall teichoic acid biosynthesis induces the cell wall stress stimulon in *Staphylococcus aureus*. *Antimicrob Agents Chemother*. 56(4):1810-20
138. Weinberger AD, CL. Sun, MM Pluciński, VJ Deneff, BC Thomas, P Horvath, R Barrangou, MS. Gilmore, WM Getz and JF Banfield. 2012. Persisting Viral Sequences Shape Microbial CRISPR-based Immunity. *PLoS Computational Biology* 8(4):e1002475..
139. Govindarajan B, Menon BB, Spurr-Michaud S, Rastogi K, Gilmore MS, Argüeso P, Gipson IK. 2012. A metalloproteinase secreted by *Streptococcus pneumoniae* removes membrane mucin MUC16 from the epithelial glycocalyx barrier. *PLoS One*. 7(3):e32418.
140. Sadaka A, Durand ML, Gilmore MS. 2012. Bacterial endophthalmitis in the age of outpatient intravitreal therapies and cataract surgeries: host-microbe interactions in intraocular infection. *Prog Retin Eye Res*. 2012 Jul;31(4):316-31.
141. Suzuki T, Campbell J, Kim Y, Swoboda JG, Mylonakis E, Walker S, Gilmore MS. 2012. Wall teichoic acid protects *Staphylococcus aureus* from inhibition by Congo red and other dyes. *J Antimicrob Chemother*. 67(9):2143-51.
- \*142. Kos VN, Desjardins CA, Griggs A, Cerqueira G, Van Tonder A, Holden MT, Godfrey P, Palmer KL, Bodi K, Mongodin EF, Wortman J, Feldgarden M, Lawley T, Gill SR, Haas BJ, Birren B, Gilmore MS. 2012. Comparative genomics of vancomycin-resistant *Staphylococcus aureus* strains and their positions within the clade most commonly associated with Methicillin-resistant *S. aureus* hospital-acquired infection in the United States. *MBio*. 3(3). doi:pii: e00112-12. 10.1128/mBio.00112-12.**
143. Weinberger AD, Gilmore MS. 2012. CRISPR-Cas: to take up DNA or not-that is the question. *Cell Host Microbe*. 12(2):125-6.
144. Weinberger AD, Wolf YI, Lobkovsky AE, Gilmore MS, Koonin EV. 2012. Viral diversity threshold for adaptive immunity in prokaryotes. *MBio*. 3(6):e00456-12.
145. Gilmore MS, Lebreton F, van Schaik W. 2013. Genomic transition of enterococci from gut commensals to leading causes of multidrug-resistant hospital infection in the antibiotic era. *Curr Opin Microbiol*. 16(1):10-6.
146. Chibebe Junior J, Fuchs BB, Sabino CP, Junqueira JC, Jorge AO, Ribeiro MS, Gilmore MS, Rice LB, Tegos GP, Hamblin MR, Mylonakis E. 2013. Photodynamic and antibiotic therapy impair the pathogenesis of *Enterococcus faecium* in a whole animal insect model. *PLoS One*. 2013;8(2):e55926.
147. Teixeira N, Varahan S, Gorman MJ, Palmer KL, Zaidman-Remy A, Yokohata R, Nakayama J, Hancock LE, Jacinto A, Gilmore MS, de Fátima Silva Lopes M. 2013. *Drosophila* Host Model Reveals New *Enterococcus faecalis* Quorum-Sensing Associated Virulence Factors. *PLoS One*. 8(5):e64740.
148. Van Tyne D, Martin MJ, Gilmore MS. 2013. Structure, function, and biology of the *Enterococcus faecalis* cytolysin. *Toxins (Basel)*. 2013 Apr 29;5(5):895-911.
149. Gilmore MS, Lebreton F, Van Tyne D. 2013. Dual defensin strategy for targeting *Enterococcus faecalis*. *Proc Natl Acad Sci U S A*. 2013 Dec 10;110(50):19980-1.
150. Dabul AN, Kos VN, Gilmore MS, Camargo IL. 2013. Draft Genome Sequence of Methicillin-Resistant *Staphylococcus aureus* Strain SA16, Representative of an Endemic Clone from a Brazilian Hospital. *Genome Announc*. 2013 Sep 19;1(5). pii: e00754-13.

151. McGilligan VE, Gregory-Ksander MS, Li D, Moore JE, Hodges RR, Gilmore MS, Moore TC, Dartt DA. 2013. *Staphylococcus aureus* activates the NLRP3 inflammasome in human and rat conjunctival goblet cells. PLoS One. 2013 Sep 10;8(9):e74010.
- \*152. **Lebreton F, van Schaik W, McGuire AM, Godfrey P, Griggs A, Mazumdar V, Corander J, Cheng L, Saif S, Young S, Zeng Q, Wortman J, Birren B, Willems RJ, Earl AM, Gilmore MS. 2013. Emergence of epidemic multidrug-resistant *Enterococcus faecium* from animal and commensal strains. MBio. 2013 Aug 20;4(4). pii: e00534-13.**
153. Lebreton F, Valentino MD, Duncan LB, Zeng Q, Manson McGuire A, Earl AM, Gilmore MS. 2013. High-Quality Draft Genome Sequence of *Vagococcus lutrae* Strain LBD1, Isolated from the Largemouth Bass *Micropterus salmoides*. Genome Announc. 26;1(6). pii: e01087-13.
154. Sassoubre LM, Ramsey MM, Gilmore MS, Boehm AB. 2014. Transcriptional response of *Enterococcus faecalis* to sunlight. J Photochem Photobiol B. 130:349-56
- \*155. **Santa Maria JP Jr, Sadaka A, Moussa SH, Brown S, Zhang YJ, Rubin EJ, Gilmore\* MS, Walker\* S. 2014. Compound-gene interaction mapping reveals distinct roles for *Staphylococcus aureus* teichoic acids. Proc Natl Acad Sci U S A. 111(34):12510-5.**
- \*156. **Valentino MD, Foulston L, Sadaka A, Kos VN, Villet RA, Santa Maria J Jr, Lazinski DW, Camilli A, Walker S, Hooper DC, Gilmore MS. 2014. Genes contributing to *Staphylococcus aureus* fitness in abscess- and infection-related ecologies. MBio. 5(5):e01729-14. PMID: 25182329**
157. Yan X, Budin-Verneuil A, Verneuil N, Gilmore MS, Artigaud S, Auffray Y, Pichereau V. 2015. Transcriptomic response of *Enterococcus faecalis* V583 to low hydrogen peroxide levels. Curr Microbiol. 70(2):156-68. PMID: 25245959
158. Varahan S, Harms N, Gilmore MS, Tomich JM, Hancock LE. 2014. An ABC transporter is required for secretion of peptide sex pheromones in *Enterococcus faecalis*. MBio. 5(5):e01726-14. PMID: 25249282
159. Van Tyne D, Gilmore MS. 2014. A delicate balance: maintaining mutualism to prevent disease. Cell Host Microbe. 16(4):425-7. PMID: 25299326
160. Sadaka A, Palmer K, Suzuki T, Gilmore MS. 2014. In vitro and in vivo models of *Staphylococcus aureus* endophthalmitis implicate specific nutrients in ocular infection. PLoS One. 9(10):e110872. PMID: 25340474
- \*161. **Valentino MD, McGuire AM, Rosch JW, Bispo PJ, Burnham C, Sanfilippo CM, Carter RA, Zegans ME, Beall B, Earl AM, Tuomanen EI, Morris TW, Haas W, Gilmore MS. 2014. Unencapsulated *Streptococcus pneumoniae* from conjunctivitis encode variant traits and belong to a distinct phylogenetic cluster. Nat Commun. 5:5411. PMID: 25388376**
162. Van Tyne D, Gilmore MS. 2014. Virulence Plasmids of Nonsporulating Gram-Positive Pathogens. Microbiol Spectr. 2(5). PMID: 25544937
163. La Rosa SL, Snipen LG, Murray BE, Willems RJ, Gilmore MS, Diep DB, Nes IF, Brede DA. 2015. A genomic virulence reference map of *Enterococcus faecalis* reveals an important contribution of phage03-like elements in nosocomial genetic lineages to pathogenicity in a *Caenorhabditis elegans* infection model. Infect Immun. 83(5):2156-67. PMID: 25776747



164. Shainheit MG, Valentino MD, Gilmore MS, Camilli A. 2015. Mutations in pneumococcal cpsE generated via in vitro serial passaging reveal a potential mechanism of reduced encapsulation utilized by a conjunctival isolate. *J Bacteriol.* 197(10):1781-91.
165. Bispo PJ, Haas W, Gilmore MS. 2015. Biofilms in infections of the eye. *Pathogens.* 4(1):111-36. PMID: 25806622
166. Santiago M, Matano LM, Moussa SH, Gilmore MS, Walker S, Meredith TC. 2015. A new platform for ultra-high density Staphylococcus aureus transposon libraries. *BMC Genomics.* 16:252. PMID: 25888466
167. Rajaiya J, Zhou X, Barequet I, Gilmore MS, Chodosh J. 2015. Novel model of innate immunity in corneal infection. *In Vitro Cell Dev Biol Anim.* 51(8):827-34. PMID: 25977076
168. de Almeida LM, Pires C, Cerdeira LT, de Oliveira TG, McCulloch JA, Perez-Chaparro PJ, Sacramento AG, Brito AC, da Silva JL, de Araújo MR, Lincopan N, Martin MJ, Gilmore MS, Mamizuka EM. 2015. Complete Genome Sequence of Linezolid-Susceptible Staphylococcus haemolyticus Sh29/312/L2, a Clonal Derivative of a Linezolid-Resistant Clinical Strain. *Genome Announc.* 3(3). pii: e00494-15. PMID: 25999579
169. Weinberger AD, Gilmore MS. 2015. A CRISPR View of Cleavage. *Cell.* 161(5):964-6. PMID: 26000476
- \*170. Gilmore MS, Rauch M, Ramsey MM, Himes PR, Varahan S, Manson JM, Lebreton F, Hancock LE. 2015. Pheromone killing of multidrug-resistant Enterococcus faecalis V583 by native commensal strains. *Proc Natl Acad Sci U S A.* 112(23):7273-8. PMID: 26039987**
171. Odorcic S, Haas W, Gilmore MS, Dohlman CH. 2015. Fungal Infections After Boston Type 1 Keratoprosthesis Implantation: Literature Review and In Vitro Antifungal Activity of Hypochlorous Acid. *Cornea.* 2015 34(12):1599-605. PMID: 26488624
172. Wurster JI, Saavedra JT, Gilmore MS. 2015. Impact of Antibiotic Use on the Evolution of Enterococcus faecium. *J Infect Dis.* 2016 Jun 15;213(12):1862-5. PMID: 26671888
173. Wilde AD, Snyder DJ, Putnam NE, Valentino MD, Hammer ND, Lonergan ZR, Hinger SA, Aysanoa EE, Blanchard C, Dunman PM, Wasserman GA, Chen J, Shopsin B, Gilmore MS, Skaar EP, Cassat JE. 2015. Bacterial Hypoxic Responses Revealed as Critical Determinants of the Host-Pathogen Outcome by TnSeq Analysis of Staphylococcus aureus Invasive Infection. *PLoS Pathog.* 11(12):e1005341. PMID: 26684646
174. Gaca AO, Gilmore MS. 2016. Killing of VRE Enterococcus faecalis by commensal strains: Evidence for evolution and accumulation of mobile elements in the absence of competition. *Gut Microbes.* 7(1):90-6. PMID: 26939857
175. Gaca AO, Gilmore MS. 2016. *Elife.* 5. pii: e161111. PMID: 27120707
176. García-Solache M, Lebreton F, McLaughlin RE, Whiteaker JD, Gilmore MS, Rice LB. 2016. Homologous Recombination within Large Chromosomal Regions Facilitates Acquisition of  $\beta$ -Lactam and Vancomycin Resistance in Enterococcus faecium. *Antimicrob Agents Chemother.* 60(10):5777-86. PMID: 27431230
177. Rajagopal M, Martin MJ, Santiago M, Lee W, Kos VN, Meredith T, Gilmore MS\*, Walker S\*. 2016. Multidrug Intrinsic Resistance Factors in Staphylococcus aureus Identified by Profiling Fitness within High-Diversity Transposon Libraries. *MBio.* 7(4).

- pii: e00950-16. PMID: 27531908
178. Selleck EM, Gilmore MS. 2016. Oxygen as a Virulence Determinant in Polymicrobial Infections. *MBio*. 7(4). pii: e01249-16. PMID: 27531913
  179. Van Tyne D, Ciolino JB, Wang J, Durand ML, Gilmore MS. 2016. Novel Phagocytosis-Resistant Extended-Spectrum  $\beta$ -Lactamase-Producing *Escherichia coli* From Keratitis. *JAMA Ophthalmol*. 134(11):1306-1309. PMID: 27631542
  180. de Mello SS, Van Tyne D, Dabul AN, Gilmore MS, Camargo IL. 2016. Genome Announc. 2016 Sep 22;4(5). pii: e00992-16. doi: 10.1128/genomeA.00992-16. PMID: 27660781
  181. Sadaka A, Durand ML, Sisk R, Gilmore MS. 2017. Staphylococcus aureus and its Bearing on Ophthalmic Disease. *Ocul Immunol Inflamm*. 25(1):111-121. PMID: 26679534
  182. Woods SE, Lieberman MT, Lebreton F, Trowel E, de la Fuente-Núñez C, Dzink-Fox J, Gilmore MS, Fox JG. 2017. Characterization of Multi-Drug Resistant *Enterococcus faecalis* Isolated from Cephalic Recording Chambers in Research Macaques (*Macaca spp.*). *PLoS One*. 12(1):e0169293. PMID: 28081148
  183. Van Tyne D, Gilmore MS. 2017. Raising the Alarmone: Within-Host Evolution of Antibiotic-Tolerant *Enterococcus faecium*. *MBio*. 2017 8(1). pii: e00066-17. doi: 10.1128/mBio.00066-17. PMID: 28223450
  184. Saavedra JT, Schwartzman JA, Gilmore MS. 2017. Mapping Transposon Insertions in Bacterial Genomes by Arbitrarily Primed PCR. *Curr Protoc Mol Biol*. 118:15.15.1-15.15.15. PMID: 28369678
  185. DeFrancesco AS, Masloboeva N, Syed AK, DeLoughery A, Bradshaw N, Li GW, Gilmore MS, Walker S, Losick R. 2017. Genome-wide screen for genes involved in eDNA release during biofilm formation by *Staphylococcus aureus*. *Proc Natl Acad Sci U S A*. 114(29):E5969-E5978. PMID: 28674000
  186. Ibberson CB, Stacy A, Fleming D, Dees JL, Rumbaugh K, Gilmore MS, Whiteley M. 2017. Co-infecting microorganisms dramatically alter pathogen gene essentiality during polymicrobial infection. *Nat Microbiol*. 2:17079. PMID: 28555625
  - \*187. Lebreton F, Manson AL, Saavedra JT, Straub TJ, Earl AM, Gilmore MS. 2017. Tracing the Enterococci from Paleozoic Origins to the Hospital. *Cell*. 169(5):849-861. PMID: 28502769**
  188. Li D, Hodges RR, Bispo P, Gilmore MS, Gregory-Ksander M, Dartt DA. 2017. Neither non-toxigenic *Staphylococcus aureus* nor commensal *S. epidermidis* activates NLRP3 inflammasomes in human conjunctival goblet cells. *BMJ Open Ophthalmol*. 2(1):e000101. doi: 10.1136/bmjophth-2017-000101.
  189. Welsh MA, Taguchi A, Schaefer K, Van Tyne D, Lebreton F, Gilmore MS, Kahne D, Walker S. 2017. Identification of a Functionally Unique Family of Penicillin-Binding Proteins. *J Am Chem Soc*. 139(49):17727-17730. doi: 10.1021/jacs.7b10170.
  190. Duarte MJ, Kozin ED, Bispo PJM, Mitchell AH, Gilmore MS, Remenschneider AK. 2017. Methicillin-resistant *Staphylococcus aureus* in acute otitis externa. *World J Otorhinolaryngol Head Neck Surg*. 4(4):246-252. doi: 10.1016/j.wjorl.2017.09.003. PMID: 30564786
  191. Lieberman MT, Van Tyne D, Dzink-Fox J, Ma EJ, Gilmore MS, Fox JG. 2018. Long-Term Colonization Dynamics of *Enterococcus faecalis* in Implanted Devices in Research

- Macaques. *Appl Environ Microbiol.* 2018 Aug 31;84(18). pii: e01336-18. doi: 10.1128/AEM.01336-18.
192. Johnston T, Van Tyne D, Chen RF, Fawzi NL, Kwon B, Kelso MJ, Gilmore MS, Mylonakis E. 2018. Propyl-5-hydroxy-3-methyl-1-phenyl-1H-pyrazole-4-carbodithioate (HMPC): a new bacteriostatic agent against methicillin-resistant *Staphylococcus aureus*. *Sci Rep.* 2018 May 4;8(1):7062. doi: 10.1038/s41598-018-25571-w.
  193. Lebreton F, Valentino MD, Schaufler K, Earl AM, Cattoir V, Gilmore MS. 2018. Transferable vancomycin resistance in clade B commensal-type *Enterococcus faecium*. *J Antimicrob Chemother.* 73(6):1479-1486. doi: 10.1093/jac/dky039.
  194. Bispo PJM, Davoudi S, Sahm ML, Ren A, Miller J, Romano J, Sobrin L, Gilmore MS. 2018. Rapid Detection and Identification of Uveitis Pathogens by Qualitative Multiplex Real-Time PCR. *Invest Ophthalmol Vis Sci.* 59(1):582-589. doi: 10.1167/iovs.17-22597.
  195. Dabul ANG, Avaca-Crusca JS, Van Tyne D, Gilmore MS, Camargo ILBC. 2018. Resistance in *In Vitro* Selected Tigecycline-Resistant Methicillin-Resistant *Staphylococcus aureus* Sequence Type 5 Is Driven by Mutations in *mepR* and *mepA* Genes. *Microb Drug Resist.* 24(5):519-526. doi: 10.1089/mdr.2017.0279.
  196. Keohane CE, Steele AD, Fetzer C, Khowsathit J, Van Tyne D, Moynié L, Gilmore MS, Karanicolas J, Sieber SA, Wuest WM. 2018. Promysalin Elicits Species-Selective Inhibition of *Pseudomonas aeruginosa* by Targeting Succinate Dehydrogenase. *J Am Chem Soc.* 140(5):1774-1782. doi: 10.1021/jacs.7b11212.
  197. Zhang S, Lebreton F, Mansfield MJ, Miyashita SI, Zhang J, Schwartzman JA, Tao L, Masuyer G, Martínez-Carranza M, Stenmark P, Gilmore MS, Doxey AC, Dong M. 2018. Identification of a Botulinum Neurotoxin-like Toxin in a Commensal Strain of *Enterococcus faecium*. *Cell Host Microbe.* 23(2):169-176.e6. doi: 10.1016/j.chom.2017.12.018.
  198. Kim W, Zhu W, Hendricks GL, Van Tyne D, Steele AD, Keohane CE, Fricke N, Conery AL, Shen S, Pan W, Lee K, Rajamuthiah R, Fuchs BB, Vlahovska PM, Wuest WM, Gilmore MS, Gao H, Ausubel FM, Mylonakis E. 2018. A new class of synthetic retinoid antibiotics effective against bacterial persisters. *Nature.* 2018 Apr 5;556(7699):103-107. doi: 10.1038/nature26157.
  199. Ung L, Bispo PJ, Shanbhag SS, Gilmore MS, Chodosh J. 2018. *Surv Ophthalmol.* 2018 Dec 24. pii: S0039-6257(18)30217-0. doi: 10.1016/j.survophthal.2018.12.003. [Epub ahead of print] Review. PMID: 30590103
  200. Zhai H, Bispo PJM, Kobashi H, Jacobs DS, Gilmore MS, Ciolino JB. 2018. Resolution of fluoroquinolone-resistant *Escherichia coli* keratitis with a PROSE device for enhanced targeted antibiotic delivery. *Am J Ophthalmol Case Rep.* 2018 Sep 12;12:73-75. doi: 10.1016/j.ajoc.2018.09.006.
  201. Gilmore MS, Miller OK. 2018. A bacterium's enemy isn't your friend. *Nature.* 2018 Nov;563(7733):637-638. doi: 10.1038/d41586-018-07414-w. PMID: 30482923
  202. Wurster JI, Bispo PJM, Van Tyne D, Cadorette JJ, Boody R, Gilmore MS. 2018. *Staphylococcus aureus* from ocular and otolaryngology infections are frequently resistant to clinically important antibiotics and are associated with lineages of community and hospital origins. *PLoS One.* 2018 Dec 6;13(12):e0208518. doi: 10.1371/journal.pone.0208518. PMID: 30521630

203. Barros EM, Martin MJ, Selleck EM, Lebreton F, Sampaio JLM, Gilmore MS. 2018. Daptomycin Resistance and Tolerance Due to Loss of Function in *Staphylococcus aureus* dsp1 and asp23. *Antimicrob Agents Chemother.* 2018 Dec 21;63(1). pii: e01542-18. doi: 10.1128/AAC.01542-18. PMID: 30397055
204. Dabul ANG, Avaca-Crusca JS, Navais RB, Merlo TP, Van Tyne D, Gilmore MS, Camargo ILBDC. 2019. Molecular basis for the emergence of a new hospital endemic tetracycline-resistant *Enterococcus faecalis* ST103 lineage. *Infect Genet Evol.* 2019 Jan;67:23-32. doi: 10.1016/j.meegid.2018.10.018. PMID: 30393188
205. Ramos Y, Rocha J, Hael AL, van Gestel J, Vlamakis H, Cywes-Bentley C, Cubillos-Ruiz JR, Pier GB, Gilmore MS, Kolter R, Morales DK. 2019. PolyGlcNAc-containing exopolymers enable surface penetration by non-motile *Enterococcus faecalis*. *PLoS Pathog.* 2019 Feb 11;15(2):e1007571. doi: 10.1371/journal.ppat.1007571. PMID: 30742693
206. Ung L, Wang Y, Vangel M, Davies EC, Gardiner M, Bispo PJM, Gilmore MS, Chodosh J. 2019. Validation of a Comprehensive Clinical Algorithm for the Assessment and Treatment of Microbial Keratitis. *Am J Ophthalmol.* pii: S0002-9394(19)30620-8. doi: 10.1016/j.ajo.2019.12.019. PMID: 31899203
207. Ung L, Bispo PJM, Bryan NC, Andre C, Chodosh J, Gilmore MS. 2019. The Best of All Worlds: *Streptococcus pneumoniae* Conjunctivitis through the Lens of Community Ecology and Microbial Biogeography. *Microorganisms.* 8(1). pii: E46. doi: 10.3390/microorganisms8010046. PMID: 31881682
208. Ung L et al. 2019. Infectious corneal ulceration: a proposal for neglected tropical disease status. *Bull World Health Organ.* 97(12):854-856. doi: 10.2471/BLT.19.232660. PMID: 31819296
209. Manson AL, Van Tyne D, Straub TJ, Clock S, Crupain M, Rangan U, Gilmore\* MS, Earl\* AM. 2019. Chicken Meat-Associated Enterococci: Influence of Agricultural Antibiotic Use and Connection to the Clinic. *Appl Environ Microbiol.* 85(22). pii: e01559-19. doi: 10.1128/AEM.01559-19. PMID: 31471308
210. Gilmore MS. 2019. The CRISPR-Antibiotic Resistance Connection. *CRISPR J.* 2:199-200. doi: 10.1089/crispr.2019.29065.msg. PMID: 31436505
211. Fiore E, Van Tyne D, Gilmore MS. 2019. Pathogenicity of Enterococci. *Microbiol Spectr.* 7(4). doi: 10.1128/microbiolspec.GPP3-0053-2018. PMID: 31298205
- \*212. Van Tyne D, Manson AL, Huycke MM, Karanicolas J, Earl AM, Gilmore MS. 2019. Impact of antibiotic treatment and host innate immune pressure on enterococcal adaptation in the human bloodstream. *Sci Transl Med.* 11(487). pii: eaat8418. doi: 10.1126/scitranslmed.aat8418. PMID: 30971455**
213. Ung L, Bispo PJM, Doan T, Van Gelder RN, Gilmore MS, Lietman T, Margolis TP, Zegans ME, Lee CS, Chodosh J. 2020. Clinical metagenomics for infectious corneal ulcers: Rags to riches? *Ocul Surf.* 18(1):1-12. doi: 10.1016/j.jtos.2019.10.007. PMID: 31669750
214. Mello SS, Van Tyne D, Lebreton F, Silva SQ, Nogueira MCL, Gilmore MS, Camargo ILBC. 2020. A mutation in the glycosyltransferase gene *lafB* causes daptomycin hypersusceptibility in *Enterococcus faecium*. *J Antimicrob Chemother.* 75(1):36-45. doi: 10.1093/jac/dkz403. PMID: 31586422

215. Fine RL, Manfredo Vieira S, Gilmore MS, Kriegel MA. 2020. Mechanisms and consequences of gut commensal translocation in chronic diseases. *Gut Microbes*. 11(2):217-230. doi: 10.1080/19490976.2019.1629236. PMID: 31306081
216. Almeida LM, Lebreton F, Gaca A, Bispo PM, Saavedra JT, Calumby RN, Grillo LM, Nascimento TG, Filsner PH, Moreno AM, Gilmore MS. 2020. Transferable Resistance Gene *optrA* in *Enterococcus faecalis* from Swine in Brazil. *Antimicrob Agents Chemother*. 2020 May 21;64(6):e00142-20. doi: 10.1128/AAC.00142-20. PMID: 32253215
217. Chilambi GS, Nordstrom HR, Evans DR, Ferrolino JA, Hayden RT, Marón GM, Vo AN, Gilmore MS, Wolf J, Rosch JW, Van Tyne D. 2020. Evolution of vancomycin-resistant *Enterococcus faecium* during colonization and infection in immunocompromised pediatric patients. *Proc Natl Acad Sci U S A*. 2020 May 26;117(21):11703-11714. doi: 10.1073/pnas.1917130117. PMID: 32393645
218. Bispo PJM, Ung L, Chodosh J, Gilmore MS. 2020. Hospital-Associated Multidrug-Resistant MRSA Lineages Are Trophic to the Ocular Surface and Cause Severe Microbial Keratitis. *Front Public Health*. 2020 Jun 3;8:204. doi: 10.3389/fpubh.2020.00204. eCollection 2020. PMID: 32582610
219. Prichula J, Van Tyne D, Schwartzman J, Sant'Anna FH, Pereira RI, da Cunha GR, Tavares M, Lebreton F, Frazzon J, d'Azevedo PA, Seixas A, Frazzon APG, Gilmore MS. 2020. Enterococci from Wild Magellanic Penguins (*Spheniscus magellanicus*) as an Indicator of Marine Ecosystem Health and Human Impact. *Appl Environ Microbiol*. 2020 Sep 17;86(19):e01662-20. doi: 10.1128/AEM.01662-20. PMID: 32737129
220. Kim S, Bispo PJM, Tanner EEL, Mitragotri S, E Silva RN, Gipson I, Chodosh J, Behlau I, Paschalis EI, Gilmore MS, Dohlman CH. 2020. The Search for Antifungal Prophylaxis After Artificial Corneal Surgery-An In Vitro Study. *Cornea*. 2020 Dec;39(12):1547-1555. doi: 10.1097/ICO.0000000000002433. PMID: 32769678
221. Almeida LM, Gaca A, Bispo PM, Lebreton F, Saavedra JT, Silva RA, Basílio-Júnior ID, Zorzi FM, Filsner PH, Moreno AM, Gilmore MS. 2020. Coexistence of the Oxazolidinone Resistance-Associated Genes *cfr* and *optrA* in *Enterococcus faecalis* From a Healthy Piglet in Brazil. *Front Public Health*. 2020 Sep 24;8:518. doi: 10.3389/fpubh.2020.00518. eCollection 2020. PMID: 33102417
- \*222. ***Gilmore MS, Salamzade R, Selleck E, Bryan N, Mello SS, Manson AL, Earl AM. 2020. Genes Contributing to the Unique Biology and Intrinsic Antibiotic Resistance of Enterococcus faecalis. mBio. 2020 Nov 24;11(6):e02962-20. doi: 10.1128/mBio.02962-20. PMID: 33234689***
223. André C, Durand ML, Buckley T, Cadorette J, Gilmore MS, Ciolino JB, Bispo PJM. 2021. A Cluster of Corneal Donor Rim Cultures Positive for *Achromobacter* Species Associated With Contaminated Eye Solution. *Cornea*. 2021 Feb 1;40(2):223-227. doi: 10.1097/ICO.0000000000002473. PMID: 33395117
224. Keffeler EC, Iyer VS, Parthasarathy S, Ramsey MM, Gorman MJ, Barke TL, Varahan S, Olson S, Gilmore MS, Abdullahi ZH, Hancock EN, Hancock LE. 2021. Influence of the Alternative Sigma Factor RpoN on Global Gene Expression and Carbon Catabolism in *Enterococcus faecalis* V583. *mBio*. 2021 May 18;12(3):e00380-21. doi: 10.1128/mBio.00380-21. PMID: 34006651
225. Prichula J, Primon-Barros M, Luz RCZ, Castro ÍMS, Paim TGS, Tavares M, Ligabue-

- Braun R, d'Azevedo PA, Frazzon J, Frazzon APG, Seixas A, Gilmore MS. 2021. Genome Mining for Antimicrobial Compounds in Wild Marine Animals-Associated Enterococci. *Mar Drugs*. 2021 Jun 6;19(6):328. doi: 10.3390/md19060328. PMID: 34204046
226. Araujo-Alves AV, Kraychete GB, Gilmore MS, Barros EM, Giambiagi-deMarval M. 2021. *shsA*: A novel orthologous of *sasX/sesI* virulence genes is detected in *Staphylococcus haemolyticus* Brazilian strains. *Infect Genet Evol*. 2022 Jan;97:105189. doi: 10.1016/j.meegid.2021.105189. PMID: 34920103
- \*227. Iida N, Mizukoshi E, Yamashita T, Yutani M, Seishima J, Wang Z, Arai K, Okada H, Yamashita T, Sakai Y, Masuo Y, Agustina R, Kato Y, Fujinaga Y, Oshima M, Honda M, Lebreton F, Gilmore MS\*, Kaneko S.\* 2021. Chronic liver disease enables gut *Enterococcus faecalis* colonization to promote liver carcinogenesis. *Nat Cancer*. 2021 Oct;2(10):1039-1054. doi: 10.1038/s43018-021-00251-3. PMID: 35121877**
228. Andre C, Rouhana J, Scarpa de Mello S, Rosa da Cunha G, Van Camp AG, Gilmore MS, Bispo PJM. 2022. Population structure of ocular *Streptococcus pneumoniae* is highly diverse and formed by lineages that escape current vaccines. *Microb Genom*. 2022 Mar;8(3). doi: 10.1099/mgen.0.000763. PMID: 35254235
- \*229. Xiong X, Tian S, Yang P, Lebreton F, Bao H, Sheng K, Yin L, Chen P, Zhang J, Qi W, Ruan J, Wu H, Chen H, Breault DT, Wu H, Earl AM, Gilmore MS\*, Abraham J\*, Dong M\*. 2022. Emerging enterococcus pore-forming toxins with MHC/HLA-I as receptors. *Cell*. 2022 Mar 31;185(7):1157-1171.e22. doi: 10.1016/j.cell.2022.02.002. PMID: 35259335**

### **Books, Reviews, Monographs, and Textbooks (\* Most Important)**

1. Behnke, D, Gilmore, MS, Ferretti, JJ. 1982. Molecular cloning of plasmid and chromosomal DNA fragments into the double selective streptococcal plasmid vector pGB301. *Basic Concepts of Streptococci and Streptococcal Diseases*, SE Holm and P Christensen, Eds. Reedbooks Ltd. 85 – 91.
2. Gilmore, MS, Ferretti, JJ, Behnke, D, Malke, H. 1982. Conservation of MLS-resistance and putative replication function sequences on streptococcal antibiotic resistance plasmids. *Basic Concepts of Streptococci and Streptococcal Diseases* SE Holm and P Christensen, Eds. Reedbooks Ltd. 76 – 84.
3. Behnke, D., M. S. Gilmore, and J. J. Ferretti. 1982. pGB301 vector plasmid family and its use for molecular cloning in streptococci, p. 239-242. In D. Schlessinger (ed.), *Microbiology-1982*. American Society for Microbiology, Washington, D.C.
4. Kreft, J, Gilmore, MS, Muller, B, Weidinger, G, Goebel, W. 1984. Cloning and characterization of the gene for a cytolysin in *Bacillus*. *Genetics and Biotechnology of the Bacilli*, A. T. Ganesan. and J. A. Hoch. (ed.), Academic Press. p. 182 – 189.
5. Gilmore, MS, Behnke, D, Roe, BA, Clewell, DB. 1987. Molecular level characterization of the *Streptococcus faecalis* plasmid pAD1 hemolysin/bacteriocin determinant. *Streptococcal Genetics*, JJ Ferretti and R Curtiss III, Eds. American Society for Microbiology, Washington, DC. p. 153-158.
6. Cruz-Rodz, AL, Gilmore, MS. 1991. Electroporation of glycine-treated *Enterococcus*

- faecalis. Genetics and Molecular Biology of Streptococci, Lactococci and Enterococci. (Eds. GM Dunny, PP Cleary, LL McKay. ASM Washington, D.C.). American Society for Microbiology, Washington, DC. p. 300 – 308.
7. Gilmore, MS. 1991. Enterococcus faecalis hemolysin/bacteriocin. Genetics and Molecular Biology of Streptococci, Lactococci and Enterococci. American Society for Microbiology, Washington, DC. p. 206-213.
  8. Huycke, MM, Gilmore, KS, Verville, T, Gilmore, MS. 1994. Analysis by PCR of high-level gentamicin resistance in enterococci and staphylococci. Pathogenic Streptococci: Present and Future. A Totolian, Ed. Lancer Publication, St. Petersburg. p. 274-275.
  9. Booth, MC, Bogie, CP, Gilmore, MS. 1994. Characterization of the Enterococcus faecalis cytolysin and auxiliary functions. Pathogenic Streptococci: Present and Future A Totolian, Ed. Lancer Publication, St. Petersburg. p. 137-139.
  10. Booth, MC, Atkuri, RV, Gilmore, MS. 1994. Toxin production contributes to severity of Staphylococcus aureus endophthalmitis. Advances in Ocular Immunology. RB Nussenblatt et al., Eds. Elsevier Science B.V. p. 269-272.
  11. Ferretti JJ, Gilmore MS, Klaenhammer TR, Brown, F. 1995. Genetics of Streptococci, Enterococci and Lactococci. In: Genetics of Streptococci, Enterococci and Lactococci. Geneva, Switzerland: International Association for Biological Standardization. Vol. 85.
  12. Strausbaugh, LJ and MS Gilmore. 1999. Enterococcal infections. Streptococcal Infections: Clinical aspects, microbiology and molecular pathogenesis DL Stevens & EL Kaplan, eds. Oxford Univ. Press, NY. p. 280-301.
  13. Hancock. LE and MS Gilmore. 1999. Enterococcal Pathogenicity. In Gram Positive Pathogens, V. Fischetti, R. Novick, J. Ferretti, D. Portnoy and J. Rood, Eds. ASM Press. p. 251-258.
  14. Gilmore, MS, MC Callegan, and BD Jett. 1999. Enterococcus faecalis cytolysin and Bacillus cereus Bi- and Tri- component hemolysins. A Comprehensive Sourcebook of Bacterial Protein Toxins, 2nd Edition (Joseph E. Alouf & John H. Freer, Eds ; Academic Press London). p. 419-434.
  15. Gilmore MS, PS Coburn, SR Nallapareddy, and BE Murray. 2002. Enterococcal Virulence. The Enterococci: Pathogenesis, Molecular Biology and Antibiotic Resistance, Eds. MS Gilmore, D Clewell, P Courvalin, GM Dunny, BE Murray, and L Rice. ASM Press, Washington, DC. p. 301–354.
  16. Gilmore MS. 2002. Molecular Analysis of Antibiotic Resistance. In: Int. J. Med. Microbiol. Munich, Germany: Verlag Urban & Fischer. p. 292:65-140.
  - \*17. **Michael S. Gilmore. 2002. *The Enterococci: Pathogenesis, Molecular Biology, and Antibiotic Resistance*. Washington, DC: ASM Press.**
  18. Gilmore KS, DF Sahm and MS Gilmore. 2002. Methicillin-resistant Staphylococcus aureus. Bacterial Resistance to Antimicrobials: Mechanisms, genetics, medical practice and public health. A. Salyers, K. Lewis, H. Taber, and R. Wax, ed. Marcel Dekker Inc. p. 331-354.
  19. Callegan, MC, MS Gilmore and DW Parke II. 2002. The pathogenesis of infectious endophthalmitis. Duane's Ophthalmology, Lippincott, Williams and Wilkins, Philadelphia PA. 2002. p. 348 – 367.
  20. Pillar, CM and MS Gilmore. 2002. Virulence plasmids of gram positive pathogens. The

- Biology of Plasmids, G. Phillips and B. Funnell, eds., ASM Press, Washington DC. 2002.
21. Manson JM and MS Gilmore. Pathogenomics of *Enterococcus faecalis*. 2006. In: Pathogenomics: Genome Analysis of Pathogenic Microbes . Wiley - VCH Verlag GmbH & Co. p. 125-148.
  22. Carniol K and MS Gilmore. 2006. The Comprehensive Sourcebook of Bacterial Protein Toxins. 3rd edition. Joseph Alouf and Michel Popoff (Eds.). Academic Press/Elsevier. p. 717-721.
  23. Manson JM, M Rauch, and MS Gilmore. 2008. The commensal microbiology of the gastrointestinal tract. In: In: GI Microbiota and regulation of the immune system. In Press GB Huffnagle and MC Noverr. Landes Bioscience. p. 15 – 28.
  24. Gilmore MS and J-Carlos Abad. 2008. Parasitic and Rickettsial Ocular Infections. In: In Albert & Jakobiec's Principles & Practice of Ophthalmology. 3rd Edition, Elsevier Press. In press.
  25. Gilmore MS. 2008. Microbiology Section Editor. Albert & Jakobiec's. In: Principles & Practice of Ophthalmology. 3rd Edition Elsevier Press. In press.
  26. Behlau I and MS Gilmore. 2008. Microbial biofilms in ophthalmology and infectious disease. Arch. Ophthalmol. 126:1572-81.
  27. Zegans ME, CM Toutain-Kidd , and MS Gilmore. 2008. Bacterial Endophthalmitis Following Cataract Surgery. Springer Series on biofilms: The Role of Biofilms in Device-related infections. M. Shirliff and L. Leid, Eds. p. 193 – 218.
  28. Gilmore MS, SR Heimer, and A Yamada. 2010. Infectious keratitis. In: Ocular Disease: Mechanisms and Management, Eds. L A Levin, and DM Albert. Saunders, Elsevier.
  29. Kos, V, KL and MS Gilmore. 2011. Enterococcal Genomes and Genomic Islands. In: Enterococcus and Safety, Eds. Teresa Semedo-Lemsaddek, Maria Teresa Barreto-Crespo, Rogério Tenreiro. Nova Publishers. Chapter 5.
  30. Palmer KL and MS Gilmore. 2011. Selfish elements and self-defense in the enterococci. Genome plasticity and Infectious Diseases, Eds. Jörg Hacker, Ulrich Dobrindt, and Reinhardt Kurth. ASM Press.
  31. Mylonakis E, FM Ausubel, M Gilmore, and A Casadevall, Eds. 2012. Recent Advances on Model Hosts. Springer Science.
  - \*32. ***Gilmore MS, Editor in Chief, DB Clewell, N Shankar, and Y Ike, Co-Editors. 2014. Enterococci: From Commensals to Leading Causes of Drug Resistant Infection. NCBI Bookshelf <http://www.ncbi.nlm.nih.gov/books/NBK190424/>***
  33. Palmer KL, van Schaik W, Willems RJL, Gilmore MS. 2014. Enterococcal Genomics. In: Gilmore MS, Clewell DB, Ike Y, Shankar N, editors. Enterococci: From Commensals to Leading Causes of Drug Resistant Infection [Internet]. PMID: 24649511. <http://www.ncbi.nlm.nih.gov/pubmed/24649511>
  34. Lebreton F, Willems RJL, Gilmore MS. 2014. Enterococcus Diversity, Origins in Nature, and Gut Colonization. In: Gilmore MS, Clewell DB, Ike Y, Shankar N, editors. Enterococci: From Commensals to Leading Causes of Drug Resistant Infection [Internet]. PMID: 24649513. <http://www.ncbi.nlm.nih.gov/pubmed/24649513>
  - \*35. ***Van Tyne D, Gilmore MS. 2014. Friend Turned Foe: Evolution of Enterococcal Virulence and Antibiotic Resistance. Annu Rev Microbiol. 68:337-56 PMID: 25002090***



**Patents:**

1. 2009-326-01 United States Abandoned Provisional 61/187,328
2. 2011-218-01 United States Filed Provisional 61/616,530 Mar 28, 2012
3. 2011-218-02 Not Applicable (PCT App) Published PCT/US2013/031590 Mar 14, 2013 WO US2013/148269 Aug 23, 2013
4. 2011-218-03 United States Filed Nationalization 14/388,685 Sep 26, 2014 9,913,854 Mar 13, 2018 US 2015/0087514 Mar 26, 2015
5. 2014-551-01 United States Filed Provisional 62/078,357 Nov 11, 2014
6. 2014-551-02 Not Applicable (PCT App) Nationalized Utility PCT/US2015/060009 WO 2016/077382 May 16, 2016
7. 2014-551-03 United States Pend XFer Utility 15/524,576 May 4, 2017
8. 2017-676-01 United States Filed Provisional 62/571,381 Oct 12, 2017
9. 2018-705-01 United States Filed Provisional 62/610,012 Dec 22, 2017