

Mary E. Marquart, Ph.D.

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Education

- 1993 B.A., Department of Biology, Saint Louis University, St. Louis, MO
1995 M.S., Department of Biology, Saint Louis University: Structure and function relationships of the outer membrane proteins and invasion plasmid antigens of *Shigella flexneri* (Mentor: William D. Picking, Ph.D.)
1997 Ph.D., Department of Biology, Saint Louis University: Invasion plasmid antigen C (IpaC): cellular and biochemical analysis of its role in the pathogenesis of *Shigella flexneri* 2a (Mentor: William D. Picking, Ph.D.)

Employment

- 1993-1997 Teaching Assistant, Cell Structure and Function Laboratory and General Microbiology Laboratory, Saint Louis University
1995-1996 Research Assistant, Biology, Saint Louis University
1998-2000 Postdoctoral Research Fellow, Herpes Simplex Virus type 1 ocular latency and reactivation, Ophthalmology, Louisiana State University Eye Center, New Orleans, LA (Mentor: James M. Hill, Ph.D.)
2000-2003 Postdoctoral Research Fellow, *Pseudomonas aeruginosa* proteases in keratitis and therapeutic strategies of bacterial keratitis, Microbiology, Immunology, and Parasitology, Louisiana State University Health Sciences Center, New Orleans, LA (Mentor: Richard J. O'Callaghan, Ph.D.)
2003-2005 Research Assistant Professor, Microbiology, Immunology, and Parasitology, Louisiana State University Health Sciences Center, New Orleans, LA
2005 Assistant Professor, Microbiology, University of Mississippi Medical Center, Jackson, MS
2006- Assistant Professor (tenure-track), Microbiology, University of Mississippi Medical Center, Jackson, MS

Awards

- 1989-1993 Dean's Merit Scholarship
1997 Dissertation Fellowship
1997 Cora Downs Award for Best Senior Graduate Student Presentation, Joint Annual Meeting of the Missouri Valley and Missouri Branches of the American Society for Microbiology, Lawrence, KS
2005 Travel Award for the Molecular Pathogenesis of Infectious and Inflammatory Eye Research Meeting, Cleveland, OH
2005 Harry Hirsch Leiter Award for Best Presentation, Ocular Microbiology and Immunology Group Meeting, Chicago, IL
2007 Excellence in Research Award, Gold Level, University of Mississippi Medical Center
2008 Charles C. Randall Lectureship Award of the South Central Branch of the American Society for Microbiology

Funding

- 1999-2000 National Research Service Award F32EY06986, National Eye Institute, National Institutes of Health: Detection of HSV-1 DNA in tears: proof of reactivation, \$31,720
2001-2003 National Research Service Award F32EY13651, National Eye Institute, National Institutes of Health: *Pseudomonas* proteases as ocular virulence factors, \$85,768
2006-2007 University of Mississippi Medical Center Intramural Research Support Program Award: *Streptococcus pneumoniae* ocular pathogenesis and therapy, \$25,000
2007-2012 Public Health Service Grant R01EY016195, National Eye Institute, National Institutes of Health: *Streptococcus pneumoniae* ocular pathogenesis and therapy, \$1,000,000
2007-2010 Research Supplement to Promote Diversity in Health-Related Research, Public Health Service Grant R01EY016195, National Eye Institute, National Institutes of Health: *Streptococcus pneumoniae* ocular pathogenesis and therapy, \$248,640

Patent

- pending M.E. Marquart and R.J. O'Callaghan: Receptor Blockade Therapy of Bacterial Keratitis, Serial Number 11/099,854, filed April 6, 2005, Attorney Docket Number Marquart 04M20. LSU Health Sciences Center, New Orleans, LA.

Mentorship

- 2006-2007 Sherrina Robinson, Murrah High School, Jackson, MS; Base Pair mentoring program between the University of Mississippi Medical Center and the Jackson Public School District
Awards: Mississippi Region II Science and Engineering Fair, Jackson, MS, 2007; Intel Science and Engineering Fair (ISEF), Albuquerque, NM, 2007
- 2006- Melissa Sanders, graduate student
Awards: National Eye Institute Travel Grant, Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL, 2007; International Congress of Eye Research Travel Grant, Beijing, China, 2008; Best Master's Student Presentation, Joint Meeting of the Texas and South Central Branches of the American Society for Microbiology, Austin, TX, 2008
- 2007- Erin White Norcross, graduate student
Award: National Eye Institute Travel Grant, Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL, 2008
- 2007- Quincy C. Moore III, postdoctoral fellow
Award: Travel award, American Society for Microbiology General Meeting, Philadelphia, PA, 2009
- 2008 Tennisha Buckner, Tougaloo College, Jackson, MS; Research Experience Opportunity (REO) program, Mississippi Functional Genomics Network (MFGN)
- 2009- Rhonda Caston, Murrah High School, Jackson, MS; Base Pair mentoring program between the University of Mississippi Medical Center and the Jackson Public School District
- 2009 Anna Oguhebe, Vanderbilt University, Nashville, TN; Research Experience Opportunity (REO) program, Mississippi Functional Genomics Network (MFGN)
- 2009 Isaiah Tolo, Belhaven College, Jackson, MS; Research Experience Opportunity (REO) program, Mississippi Functional Genomics Network (MFGN)

Committees and Service

- 2002- *Ad hoc* reviewer for Analytical Chemistry Insights, British Journal of Ophthalmology, Contact Lens and Anterior Eye, Current Eye Research, and Investigative Ophthalmology and Visual Science
- 2006-2009 Dissertation committee for Megumi Mills
- 2006-2007 Microbiology department Ph.D. qualifying exam committee
- 2006- Assistant Director, Microbiology graduate program
- 2006-2009 UMC Faculty Senator
- 2007-2008 Secretary, UMC Faculty Senate

- 2006- Microbiology Department Co-Representative, Southern Association of Colleges and Schools (SACS) accreditation
- 2007 Poster session moderator, Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Fort Lauderdale, FL
- 2007- Dissertation committee for Chinwendu Onwubiko
- 2008- Dissertation committee for Clare McCormick
- 2008 Paper session moderator, Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Fort Lauderdale, FL
- 2008 NIH Member Conflict Reviewer, Anterior Eye Disease, National Eye Institute
- 2008 Poster session judge, Graduate Studies in the Health Sciences Research Day, University of Mississippi Medical Center
- 2008- Dissertation committee for Lauren King

Current Professional Memberships

American Society for Microbiology (ASM)
Association for Research in Vision and Ophthalmology (ARVO)
International Society for Eye Research (ISER)
Tear Film and Ocular Surface Society (TFOS)

Teaching

- 1993-1997 Teaching Assistant, Cell Structure and Function Laboratory and General Microbiology Laboratory, Saint Louis University
Guest Lecturer for undergraduate courses Cell Structure and Function, Genetics, and General Microbiology, Saint Louis University
- 2001,2003 Guest Lecturer for graduate Bacteriology, Louisiana State University Health Sciences Center
- 2002 Assistant teaching of medical students, Microbiology, Immunology & Parasitology course, Louisiana State University Health Sciences Center
- 2006- Medical Microbiology, University of Mississippi Medical Center
- 2007- Bacterial Structure and Function, University of Mississippi Medical Center
- 2007- Graduate Virology, University of Mississippi Medical Center
- 2007- Dental Microbiology, University of Mississippi Medical Center
- 2007 Advanced Bacteriology, University of Mississippi Medical Center

Publications

1. **Marquart ME**, Picking WL, Picking WD. 1995. Structural analysis of invasion plasmid antigen D (IpaD) from *Shigella flexneri*. Biochem. Biophys. Res. Comm. 214:963-970.

2. **Marquart ME**, Picking WL, Picking WD. 1996. Soluble invasion plasmid antigen C (IpaC) from *Shigella flexneri* elicits epithelial cell responses related to pathogen invasion. *Infect. Immun.* 64:4182-4187.
3. Picking WL, Mertz JA, **Marquart ME**, Picking WD. 1996. Cloning, expression, and affinity purification of recombinant *Shigella flexneri* invasion plasmid antigens IpaB and IpaC. *Protein Expr. Purif.* 8:401-408.
4. Davis R, **Marquart ME**, Lucius D, Picking WD. 1998. Protein-protein interactions in the assembly of *Shigella flexneri* invasion plasmid antigens IpaB and IpaC into protein complexes. *Biochim. Biophys. Acta* 1429:45-56.
5. Loutsch JM, Perng G-C, Hill JM, Zheng X, **Marquart ME**, Block TM, Ghiasi H, Nesburn AB, Wechsler SL. 1999. An identical 371 basepair deletion mutant in the LAT gene of herpes simplex virus type 1 (HSV-1) results in different *in vivo* reactivation phenotypes in HSV-1 strains McKrae and 17syn+. *J. Virol.* 73:767-771.
6. Zheng X, **Marquart ME**, Loutsch JM, Shah P, Sainz B, Ray A, O'Callaghan RJ, Kaufman HE, Hill JM. 1999. HSV-1 migration in latently infected and naive rabbits after penetrating keratoplasty. *Invest. Ophthalmol. Vis. Sci.* 40:2490-2497.
7. Zhu J, Kang W, **Marquart ME**, Hill JM, Zheng X, Block T, Fraser NW. 1999. Identification of a novel 0.7 kb polyadenylated transcript in the LAT promoter region of HSV-1 that is strain specific and may contribute to virulence. *Virology* 265:296-307.
8. Sainz B, Loutsch JM, **Marquart ME**, Hill JM. 2001. Stress-associated immunomodulation and herpes simplex virus infections. *Med. Hypotheses* 56:348-356.
9. **Marquart ME**, Zheng X, Tran RK, Thompson HW, Bloom DC, Hill JM. 2001. A cAMP response element within the latency-associated transcript promoter of HSV-1 facilitates induced reactivation in a mouse hyperthermia model. *Virology* 284:62-69.
10. Caballero AR, Moreau JM, Engel LS, **Marquart ME**, Hill JM, O'Callaghan RJ. 2001. *Pseudomonas aeruginosa* protease IV enzyme assays and comparison to other *Pseudomonas* proteases. *Anal. Biochem.* 290:330-337.
11. Loutsch JM, Sainz B Jr, **Marquart ME**, Zheng X, Kesavan P, Higaki S, Hill JM, Tal-Singer R. 2001. Effect of famciclovir on herpes simplex virus type 1 corneal disease and establishment of latency in rabbits. *Antimicrob. Agents Chemother.* 45:2044-2053.
12. Dajcs JJ, Moreau JM, Thibodeaux BA, Traidej M, Austin MS, **Marquart ME**, Stroman DW, O'Callaghan RJ. 2001. Effectiveness of ciprofloxacin and ofloxacin in a prophylaxis model of *Staphylococcus* keratitis. *Cornea* 20:878-880.
13. Jarman RG, Loutsch JM, Devi-Rao GB, **Marquart ME**, Banaszak MP, Zheng X, Hill JM, Wagner EK, Bloom DC. 2002. The region of the HSV-1 latency-associated transcript required for epinephrine-induced reactivation in the rabbit does not include the 2.0-kb intron. *Virology* 292:59-69.
14. **Marquart ME**, Hume EBH, Zheng X, Caballero A, Hill JM, O'Callaghan RJ. 2002. Bacterial keratitis. In: Agarwal S, Apple DJ, Agarwal A, Buratto L, Alio JL, Pandey SK, Agarwal A, editors. *Textbook of Ophthalmology*. Volume 2. New Delhi, India: Jaypee Brothers Medical Publishers (P) Ltd, 991-1019.

15. Zheng X, **Marquart ME**, Mitra A, Hill JM. 2002. Unique ocular drug delivery systems. In: Agarwal S, Apple DJ, Agarwal A, Buratto L, Alio JL, Pandey SK, Agarwal A, editors. Textbook of Ophthalmology. Volume 3. New Delhi, India: Jaypee Brothers Medical Publishers (P) Ltd, 2076-2089.
16. Traidej M, Caballero AR, **Marquart ME**, Thibodeaux BA, O'Callaghan RJ. 2003. Molecular analysis of *Pseudomonas aeruginosa* protease IV expressed in *Pseudomonas putida*. Invest. Ophthalmol. Vis. Sci. 44:190-196.
17. Traidej M, **Marquart ME**, Caballero AR, Thibodeaux BA, O'Callaghan RJ. 2003. Identification of the active site residues of *Pseudomonas aeruginosa* protease IV: importance of enzyme activity in autoprocessing and activation. J. Biol. Chem. 278:2549-2553.
18. **Marquart M**, Bhattacharjee P, Zheng X, Kaufman H, Thompson H, Varnell E, Hill J. 2003. Ocular reactivation phenotype of HSV-1 strain F(MP)E, a corticosteroid-sensitive strain. Curr. Eye Res. 26:205-209.
19. Caballero A, Thibodeaux B, **Marquart M**, Traidej M, O'Callaghan R. 2004. *Pseudomonas* keratitis: protease IV gene conservation, distribution, and production relative to virulence and other *Pseudomonas* proteases. Invest. Ophthalmol. Vis. Sci. 45:522-530.
20. Dajcs JJ, Thibodeaux BA, **Marquart ME**, Girgis DO, Traidej M, O'Callaghan RJ. 2004. Effectiveness of ciprofloxacin, levofloxacin, or moxifloxacin for treatment of experimental *Staphylococcus aureus* keratitis. Antimicrob. Agents Chemother. 48:1948-1952.
21. Thibodeaux BA, Dajcs JJ, Caballero AR, **Marquart ME**, Girgis DO, O'Callaghan RJ. 2004. Quantitative comparison of fluoroquinolone therapies of experimental Gram-negative bacterial keratitis. Curr. Eye Res. 28:337-342.
22. **Marquart ME**, Dajcs JJ, Caballero AR, Thibodeaux BA, O'Callaghan RJ. 2005. Calcium and magnesium enhance the production of *Pseudomonas aeruginosa* protease IV, a corneal virulence factor. Med. Microbiol. Immunol. 194:39-45.
23. Reed JM, O'Callaghan RJ, Girgis DO, McCormick CC, Caballero AR, **Marquart ME**. 2005. Ocular virulence of capsule-deficient *Streptococcus pneumoniae* in a rabbit keratitis model. Invest. Ophthalmol. Vis. Sci. 46:604-608.
24. Thibodeaux BA, Caballero AR, Dajcs JJ, **Marquart ME**, Engel LS, O'Callaghan RJ. 2005. *Pseudomonas aeruginosa* protease IV: a corneal virulence factor of low immunogenicity. Ocul. Immunol. Inflamm. 13:169-182.
25. Girgis DO, Reed JM, Monds KS, Dajcs JJ, **Marquart ME**, Thibodeaux BA, O'Callaghan RJ. 2005. Pathogenesis of *Staphylococcus* in the rabbit anterior chamber. Invest. Ophthalmol. Vis. Sci. 46:1371-1378.
26. **Marquart ME**, Caballero AR, Chomnawang M, Thibodeaux BA, Twining SS, O'Callaghan RJ. 2005. Identification of a novel secreted protease from *Pseudomonas aeruginosa* that causes corneal erosions. Invest. Ophthalmol. Vis. Sci. 46:3761-3768.
27. Caballero AR, **Marquart ME**, O'Callaghan RJ, Thibodeaux BA, Johnston KH, Dajcs JJ. 2006. Effectiveness of fluoroquinolones against *Mycobacterium abscessus* *in vivo*. Curr. Eye Res. 31:23-29.

28. McCormick CC, Dajcs JJ, Reed JM, **Marquart ME**, O'Callaghan RJ. 2006. The effectiveness of lysostaphin therapy for experimental coagulase-negative *Staphylococcus* endophthalmitis. *Curr. Eye Res.* 31:225-230.
29. Shah P, **Marquart M**, Quin LR, Swiatlo E. 2006. Cellular location of polyamine transport protein PotD in *Streptococcus pneumoniae*. *FEMS Microbiol. Lett.* 261:235-237.
30. O'Callaghan RJ and **Marquart ME**. 2007. Gram-positive bacterial keratitis. In: Chodosh J, Wilhelmus K, editors. *Duane's Foundations of Clinical Ophthalmology*. Philadelphia, PA: Lippincott Williams & Wilkins.
31. **Marquart ME**, Monds KS, McCormick CC, Dixon SN, Sanders ME, Reed JM, McDaniel LS, Caballero AR, O'Callaghan RJ. 2007. Cholesterol as treatment for pneumococcal keratitis: cholesterol-specific inhibition of pneumolysin in the cornea. *Invest. Ophthalmol. Vis. Sci.* 48:2661-2666.
32. Thibodeaux BA, Caballero AR, **Marquart ME**, Tommassen J, O'Callaghan RJ. 2007. Corneal virulence of *Pseudomonas aeruginosa* elastase B and alkaline protease produced by *Pseudomonas putida*. *Curr. Eye Res.* 32:373-386.
33. Mills MF, **Marquart ME**, McDaniel LS. 2007. Localization of PcsB of *Streptococcus pneumoniae* and its differential expression in response to stress. *J. Bacteriol.* 189:4544-4546.
34. O'Callaghan RJ, McCormick CC, Caballero AR, **Marquart ME**, Gatlin HP, Fratkin JD. 2007. Age-related differences in rabbits during experimental *Staphylococcus aureus* keratitis. *Invest. Ophthalmol. Vis. Sci.* 48:5125-5131.
35. Green SN, Sanders M, Moore QC III, Norcross EW, Monds KS, Caballero AR, McDaniel LS, Robinson SA, Onwubiko C, O'Callaghan RJ, **Marquart ME**. 2008. Protection from *Streptococcus pneumoniae* keratitis by passive immunization with pneumolysin antiserum. *Invest. Ophthalmol. Vis. Sci.* 49:290-294.
36. **Marquart ME**, Moore QC III, O'Callaghan RJ. Novel therapies for bacterial keratitis. In: Columbus F, editor. *Eye Infections: Causes, Effects and Treatment*. Hauppauge, NY: Nova Science Publishers, Inc., accepted for publication.
37. Sanders ME, Norcross EW, Moore QC III, Onwubiko C, King LB, Fratkin J, **Marquart ME**. 2008. A comparison of pneumolysin activity and concentration *in vitro* and *in vivo* in a rabbit endophthalmitis model. *Clin. Ophthalmol.* 2:793-800.
38. Tang A, **Marquart ME**, Fratkin JD, McCormick CC, Caballero AR, Gatlin HP, O'Callaghan RJ. 2009. Properties of PASP: a *Pseudomonas* protease capable of mediating corneal erosions. *Invest. Ophthalmol. Vis. Sci.*, in press.
39. Sanders ME, Norcross EW, Moore QC III, Shafiee A, **Marquart ME**. 2009. Efficacy of besifloxacin in a rabbit model of MRSA keratitis. *Cornea*, accepted for publication.
40. Moore QC III, McCormick CC, Norcross EW, Onwubiko C, Sanders ME, Fratkin J, McDaniel LS, O'Callaghan RJ, **Marquart ME**. 2009. Development of a *Streptococcus pneumoniae* keratitis model in mice. *Ophthalmic Res.*, accepted for publication.

Posters and Presentations

1. Picking WD, Picking WL, **Marquart ME**, Kim T. 1993. IpaD as a major virulence plasmid-mediated adhesin for *Shigella flexneri* 2a. Ninety-third General Meeting of the American Society for Microbiology, Atlanta, GA.
2. **Marquart ME**, Picking WL, Oaks EV, Agarwal R, Picking WD. 1994. Structural features of *Shigella flexneri* invasion plasmid antigen D. Ninety-fourth General Meeting of the American Society for Microbiology, Las Vegas, NV.
3. **Marquart ME**, Picking WL, Picking WD. 1994. Invasion plasmid antigen D involvement in multiprotein complexes in water extracts of *Shigella flexneri*. Ninety-fourth General Meeting of the American Society for Microbiology, Las Vegas, NV.
4. **Marquart ME**, Picking WD. 1995. Structure and function analysis of *Shigella flexneri* invasion plasmid antigen D. First Annual Saint Louis University Graduate Student Association Research Day, St. Louis, MO.
5. **Marquart ME**, Picking WL, Picking WD. 1996. Invasion plasmid antigen C (IpaC) of *Shigella flexneri* induces changes in intestinal epithelial cells that are related to bacterial invasion. Second Annual Saint Louis University Graduate Student Association Research Day, St. Louis, MO.
6. **Marquart ME**, Picking WL, Picking WD. 1996. Effects of purified invasion plasmid antigen C (IpaC) from *Shigella flexneri* on Henle 407 cells. Ninety-sixth General Meeting of the American Society for Microbiology, New Orleans, LA.
7. **Marquart ME**. 1996. IpaC from *Shigella flexneri* promotes bacterial invasion of intestinal cells. The Central States Universities, Incorporated Annual Conference, Argonne National Laboratory, Argonne, IL. (oral presentation)
8. Picking WD, **Marquart ME**. 1996. Highly purified invasion plasmid antigen C (IpaC) from *Shigella flexneri* 2a elicits responses in epithelial cells that are related to pathogen invasion. Third Annual Midwest Pathogenics Conference, Madison, WI.
9. Picking WL, Edgar DW, **Marquart ME**, Lucius DA, Picking WD. 1997. *Shigella* IpaC and *Salmonella* SipC bind epithelial cells to promote uptake of *Shigella flexneri*. Ninety-seventh General Meeting of the American Society for Microbiology, Miami, FL.
10. Picking WD, **Marquart ME**. 1997. Structural and functional properties of invasion plasmid antigen C (IpaC) of *Shigella flexneri*. Meeting on Microbial Pathogenesis and Host Response, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
11. **Marquart ME**, Picking WD. 1997. Molecular and biochemical analysis of invasion plasmid antigens C (IpaC) and D (IpaD) in the uptake of *Shigella flexneri* by epithelial cells. Joint Annual Meeting of the Missouri Valley and Missouri Branches of the American Society for Microbiology, Lawrence, KS. (oral presentation)
12. Davis R, **Marquart M**, Lucius D, Picking WD. 1998. *In vitro* assembly of protein complexes consisting of IpaB and IpaC from *Shigella flexneri*. Ninety-eighth General Meeting of the American Society for Microbiology, Atlanta, GA.
13. Zheng X, Loutsch JM, **Marquart ME**, Ray A, Hill JM. 1998. Molecular analysis of HSV-1 following penetrating keratoplasty (PKP) in latently infected rabbits. Tenth

Annual Neuroscience Center Retreat, Louisiana State University Medical Center, New Orleans, LA.

14. **Marquart ME**, Zheng X, Loutsch JM, Corbett N, Hill JM. 1998. Sequences between the 2.0 kb LAT intron splice sites are not necessary for induced HSV-1 reactivation. Tenth Annual Neuroscience Center Retreat, Louisiana State University Medical Center, New Orleans, LA.
15. **Marquart ME**, Gebhardt BM, Zheng X, Loutsch JM, Garza HH Jr, Varnell ED, Hill JM, Kaufman HE. 1998. Adrenergic agonists and antagonists: roles in ocular HSV-1 reactivation. Twenty-third International Herpesvirus Workshop, York, United Kingdom.
16. Zheng X, **Marquart ME**, Loutsch JM, O'Callaghan RJ, Kaufman HE, Hill JM. 1999. HSV-1 migration in latent and naive rabbits following penetrating keratoplasty. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
17. Taylor JL, Tsao L-S, Hill J, **Marquart ME**, Loutsch JM, Zheng X, Varnell ED, O'Brien WJ. 1999. Induction of HSV-1 gene expression by transcorneal iontophoresis of epinephrine. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
18. **Marquart ME**, Foster TP, Kousoulas KG, Zheng X, Loutsch JM, Gebhardt BM, Hill JM. 1999. Viral latency and ocular reactivation of a recombinant HSV-1 that expresses enhanced green fluorescent protein (EGFP). Ninety-ninth General Meeting of the American Society for Microbiology, Chicago, IL.
19. O'Brien WJ, Tsao L-S, Loutsch JM, **Marquart ME**, Zheng X, Taylor JL, Hill JM. 1999. Transcription of HSV-1 genes following reactivation from latency. Twenty-fourth International Herpesvirus Workshop, Boston, MA.
20. Loutsch JM, **Marquart ME**, Zheng X, Wilcox K, Hill JM. 1999. A recombinant HSV-1 that expresses EGFP has the high induced reactivation frequency like that of the parental strain McKrae. Twenty-fourth International Herpesvirus Workshop, Boston, MA.
21. **Marquart ME**, Zheng X, Tran RK, Hill JM, Bloom DC. 2000. A cAMP response element (CRE) is essential for ocular herpes simplex virus type 1 (HSV-1) reactivation in mice. One Hundredth General Meeting of the American Society for Microbiology, Los Angeles, CA.
22. Loutsch JM, Sainz B Jr, **Marquart ME**, Zheng X, van der Key HK, Hill JM, Tal-Singer R. 2000. The effect of Famciclovir (FCV) on herpes simplex virus type 1 (HSV-1) corneal disease, latency and reactivation in the rabbit eye model. Thirteenth International Conference on Antiviral Research, Baltimore, MD.
23. Loutsch JM, Sainz B Jr., **Marquart ME**, Zheng X, Kesavan P, Hill JM, Tal-Singer R. 2000. The effect of Famvir™(FCV) on the establishment of latency and reactivation in the rabbit eye model of HSV-1. Twenty-fifth International Herpesvirus Workshop, Portland, OR.
24. O'Callaghan R, Dajcs J, Stroman D, Schlech B, Ke T, Moreau J, Thibodeaux B, **Marquart M**. 2000. Effectiveness of ciprofloxacin in a new prophylaxis rabbit model of *Staphylococcus* keratitis. Ocular Microbiology and Immunology Group, Dallas, TX.

25. Higaki S, **Marquart ME**, Alexander J, Loutsch JM, Coffin RS, Thomas SK, Hill JM. 2001. Deregulated expression of the LAT ORF enhances reactivation of HSV-1 in the rabbit eye model. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
26. Girgis DO, Moreau JM, Dajcs JJ, Austin MS, **Marquart ME**, O'Callaghan RJ. 2001. Phospholipase A₂ in rabbit tears is a host defense against *Staphylococcus aureus*. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
27. Caballero A, Thibodeaux B, **Marquart M**, Moreau J, Traidej M, O'Callaghan R. 2001. Cloning of *P. aeruginosa* protease IV gene and expression of active form in *E. coli*. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
28. Moreau JM, Dajcs JJ, Stroman DW, Schlech BA, Ke TL, Thibodeaux BA, **Marquart ME**, O'Callaghan RJ. 2001. A rabbit model of *Staphylococcus* keratitis for measuring the effectiveness of prophylactic antibiotics. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
29. Thibodeaux B, Caballero A, Traidej M, **Marquart M**, O'Callaghan R. 2001. Sequence, structure and immunogenicity of protease IV, and extracellular lysine-specific protease of *Pseudomonas aeruginosa*. *Pseudomonas* Conference, Federation of European Microbiological Societies, Brussels, Belgium.
30. Caballero AR, Thibodeaux B, **Marquart M**, Traidej M, O'Callaghan R. 2002. *Pseudomonas* protease and corneal virulence. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
31. Traidej M, Caballero AR, **Marquart ME**, Thibodeaux BA, O'Callaghan RJ. 2002. Molecular cloning and expression analysis of a lysine specific proteinase, protease IV from *Pseudomonas aeruginosa*. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
32. Dajcs JJ, Girgis DO, Thibodeaux BA, Sloop GD, **Marquart ME**, Caballero AR, O'Callaghan RJ. 2003. Corneal pathogenesis of *Staphylococcus aureus* gamma-toxin. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
33. Thibodeaux BA, Dajcs JJ, Caballero AR, **Marquart ME**, Girgis DO, O'Callaghan RJ. 2003. The effectiveness of moxifloxacin for gram-negative bacterial keratitis. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
34. Caballero AR, Thibodeaux BA, Dajcs JJ, **Marquart ME**, Johnston KH, O'Callaghan RJ. 2003. Effectiveness of fluoroquinolone antibiotics for experimental *Mycobacterium chelonae* keratitis. Ocular Microbiology and Immunology Group, Anaheim, CA.
35. **Marquart ME**, Caballero AR, Dajcs JJ, Girgis DO, Thibodeaux BA, O'Callaghan RJ. 2003. Enhancement of *Pseudomonas aeruginosa* protease IV and pyoverdine production. *Pseudomonas* 2003, Quebec City, Quebec, Canada.

36. **Marquart ME**, Caballero AR, Thibodeaux BA, O'Callaghan RJ. 2004. Isolation and identification of a secreted protease from *Pseudomonas aeruginosa*. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
37. Bush JT, Dajcs JJ, **Marquart ME**, Thibodeaux BA, O'Callaghan RJ. 2004. Experimental *Staphylococcus* keratitis: passive immunization with alpha-toxin antibody. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
38. Reed JM, O'Callaghan RJ, **Marquart ME**. 2004. Ocular virulence of capsule-deficient *Streptococcus pneumoniae* strain R6. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
39. Caballero AR, Bush JT, Dajcs JJ, **Marquart ME**, Thibodeaux BA, O'Callaghan RJ. 2004. Passive immunization therapy for experimental Staphylococcal keratitis. Ocular Microbiology and Immunology Group, New Orleans, LA.
40. **Marquart ME**, Reed JM, O'Callaghan RJ, Girgis DO, McCormick CC, Caballero AR. 2004. Corneal virulence of non-capsular *Streptococcus pneumoniae*. Ocular Microbiology and Immunology Group, New Orleans, LA. (oral presentation)
41. Thibodeaux BA, Caballero AR, **Marquart ME**, Tommassen J, Lazdunski A, O'Callaghan RJ. 2005. Virulence contribution of *Pseudomonas aeruginosa* elastase and alkaline protease in a *Pseudomonas putida* model of rabbit keratitis. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
42. Caballero AR, Thibodeaux BA, Reed JM, **Marquart ME**, McCormick CC, Monds KS, O'Callaghan RJ. 2005. Virulence of *Staphylococcus epidermidis* strains in the rabbit cornea. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
43. **Marquart ME**, Caballero AR, O'Callaghan RJ. 2005. *Pseudomonas aeruginosa* small protease (PASP) causes corneal epithelial erosions. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
44. **Marquart ME**, Caballero AR, O'Callaghan RJ. 2005. Species distribution of the gene encoding PASP, a *Pseudomonas* protease that causes corneal damage. Molecular Pathogenesis of Infectious and Inflammatory Eye Research Meeting, Cleveland, OH. (oral presentation)
45. **Marquart ME**, Reed JM, Caballero AR, Joshi S, Weathersby DC, McCormick CC, Monds KS, O'Callaghan RJ. 2005. Topical cholesterol as an effective treatment for pneumococcus keratitis. Ocular Microbiology and Immunology Group Meeting, Chicago, IL. (oral presentation)
46. **Marquart ME**. 2006. Virulence factors and corneal pathogenesis of *Pseudomonas aeruginosa* and *Streptococcus pneumoniae*. Department of Pharmacology, University of Mississippi Medical Center, Jackson, MS. (invited oral presentation)
47. **Marquart ME**, Monds KS, Caballero AR, McDaniel LS, O'Callaghan RJ. 2006. Passive immunization of rabbits with pneumolysin antiserum to treat *Streptococcus pneumoniae* keratitis. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL. (oral presentation)

48. Monds KS, **Marquart ME**, Reed JM, Caballero AR, O'Callaghan RJ. 2006. Alpha-toxin susceptibility impacts age-related differences in experimental *S. aureus* keratitis. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
49. Caballero AR, Denard BS, Joshi S, **Marquart ME**, O'Callaghan RJ. 2006. A newly discovered toxicity of *Staphylococcus aureus* active in experimental keratitis. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
50. **Marquart ME**. 2006. Pneumococcal eye infections. Pneumococcal Symposium, University of Alabama, Birmingham, AL. (oral presentation)
51. **Marquart ME**. 2006. Pneumolysin as a target in the treatment of *Streptococcus pneumoniae* keratitis. International Congress of Eye Research, Buenos Aires, Argentina. (invited oral presentation)
52. Sanders ME, Dixon SN, McDaniel LS, **Marquart ME**. 2007. Neutralization of *Streptococcus pneumoniae* pneumolysin by anti-pneumolysin immunoglobulin G. Mississippi Academy of Sciences, Mississippi State, MS.
53. Robinson SA, Dixon SN, Sanders ME, Monds KS, Caballero AR, McDaniel LS, **Marquart ME**. 2007. Passive immunization with pneumolysin antiserum as treatment for *Streptococcus pneumoniae* keratitis. Mississippi Academy of Sciences, Mississippi State, MS.
54. Sanders ME, Dixon SN, Robinson SA, **Marquart ME**. 2007. Pneumococcal endophthalmitis: prevalence of serotype 6 in human endophthalmitis isolates and comparison to a non-type 6 isolate in a rabbit endophthalmitis model. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
55. Green SN, Sanders ME, Robinson SA, **Marquart ME**. 2007. A comparison of capsular and non-typeable pneumococcal clinical isolates in a rabbit conjunctivitis model. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
56. Tang A, **Marquart ME**, McCormick CC, Caballero AR, O'Callaghan RJ. 2007. Distribution and further characterization of *Pseudomonas aeruginosa* small protease. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
57. Dixon SN, Sanders ME, **Marquart ME**. 2007. Analysis of proteolytic activity among conjunctivitis and endophthalmitis *Streptococcus pneumoniae* clinical isolates. One Hundred Seventh General Meeting of the American Society for Microbiology, Toronto, Ontario, Canada.
58. **Marquart ME**. 2007. The roles of pneumolysin and capsule in the pathogenesis of *Streptococcus pneumoniae* ocular infections. Department of Biochemistry, University of Mississippi Medical Center, Jackson, MS. (invited oral presentation)
59. Sanders ME, Norcross EW, Moore QC III, **Marquart ME**. 2008. A comparison of pneumolysin activity and concentration *in vitro* and *in vivo* in a rabbit endophthalmitis model. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.

60. Tang A, Fratkin JD, McCormick CC, **Marquart ME**, Caballero AR, O'Callaghan RJ. 2008. Further analysis of *Pseudomonas aeruginosa* small protease (PASP): a corneal virulence factor. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
61. Norcross EW, Moore QC III, Sanders ME, **Marquart ME**. 2008. The effect of *Streptococcus pneumoniae* pneumolysin on primary rabbit corneal epithelial cells. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL. (oral presentation)
62. **Marquart ME**. 2008. Mechanisms and therapy of *Streptococcus pneumoniae* keratitis. International Congress of Eye Research, Beijing, China. (invited oral presentation)
63. Moore QC III, McCormick CC, Norcross EW, Onwubiko C, Sanders ME, **Marquart ME**. 2008. Development of a mouse model of *Streptococcus pneumoniae* keratitis. International Congress of Eye Research, Beijing, China. (oral presentation)
64. Sanders ME, Norcross EW, Moore QC III, **Marquart ME**. 2008. Effect of capsule on the pathogenesis of *Streptococcus pneumoniae* in a rabbit endophthalmitis model. International Congress of Eye Research, Beijing, China. (oral presentation)
65. **Marquart ME**. 2008. Ocular pathogenesis of *Streptococcus pneumoniae*: roles of capsule and pneumolysin and implications for therapy. Joint Meeting of the Texas and South Central Branches of the American Society for Microbiology, Austin, TX. (invited oral presentation)
66. Sanders M, Norcross E, Moore Q III, **Marquart ME**. 2008. The *Streptococcus pneumoniae* capsule is required for full virulence in pneumococcal endophthalmitis. Joint Meeting of the Texas and South Central Branches of the American Society for Microbiology, Austin, TX. (oral presentation)
67. **Marquart ME**. 2009. Mechanisms and therapy of pneumococcal ocular infections. Department of Biological Sciences, Mississippi State University, Starkville, MS. (invited oral presentation)
68. **Marquart ME**. 2009. *Streptococcus pneumoniae* ocular pathogenesis and therapy. Department of Ophthalmology, University of Oklahoma Health Sciences Center, Oklahoma City, OK. (invited oral presentation)
69. Norcross EW, Dixon SN, Sanders ME, Moore QC III, McDaniel LS, **Marquart ME**. 2009. Active immunization against pneumolysin protects the cornea during *Streptococcus pneumoniae* keratitis infection. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
70. **Marquart ME**, Sanders ME, Norcross EW, Moore QC III, Shafiee A. 2009. Efficacy of besifloxacin in the treatment of methicillin-resistant *Staphylococcus aureus* keratitis. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
71. Moore QC III, Sanders ME, Norcross EW, Shafiee A, **Marquart ME**. 2009. Efficacy of besifloxacin in the treatment of quinolone-resistant *Pseudomonas aeruginosa* keratitis. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.

72. Sanders ME, Norcross EW, Moore QC III, **Marquart ME**. 2009. Protection from pneumococcal endophthalmitis by active immunization with pneumolysin in a rabbit model. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL. (oral presentation)
73. Ghatge DA, Sanders M, Robertson ZM, Fratkin J, Smith A, **Marquart M**, Chen C. 2009. Anti-pneumolysin immunoglobulin as adjunctive treatment for *Streptococcus pneumoniae* endophthalmitis in rabbits. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL.
74. Moore QC III, Sanders ME, King LB, **Marquart ME**. 2009. Age dependent susceptibility of C57BL/6 mice to pneumococcal keratitis. One Hundred Ninth General Meeting of the American Society for Microbiology, Philadelphia, PA.
75. Sanders ME, Moore QC III, Norcross EW, **Marquart ME**. 2009. Protection against pneumococcal endophthalmitis in rabbits by active immunization with Pneumovax® 23. One Hundred Ninth General Meeting of the American Society for Microbiology, Philadelphia, PA.