Curriculum Vitae
Jovanka M. Voyich

Current Position: Professor and Department Head; Department of Microbiology & Cell Biology, Montana State University – Bozeman, Affiliate Professor, Department of Microbiology, University of Washington School of Medicine

Bio: Dr. Voyich received her B.S. in Biology and Ph.D. in Veterinary Molecular Biology at Montana State University. Her postdoctoral training was at the Rocky Mountain Laboratories, Division of Intramural Research, National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH) where she focused on host-pathogen research and made significant contributions to the understanding of bacterial pathogens and evasion of innate immunity. Using state-of-the-art technology, her work has significantly contributed to understanding the role of the pathogen in physiological relevant environments, elucidating that the pathogen is as sophisticated as the host and by no means complacent. Overarching objectives of her laboratory, include defining host and pathogen factors that initiate infection to create new therapeutics that "blind" the pathogen and augment innate immunity. By understanding how neutrophils contain and control infections, her research aims to reduce reliance on antibiotics and advance new strategies to combat antimicrobial resistance. The impact of her work is reflected in 82 publications that have more than 12,000 citations across the scientific literature. Since joining Montana State University in 2006, her lab has been continuously NIH-funded. She has been PI or Co-I on over $20,000,000 in research awards and is currently Co- PD/PI of a U54 COBRE Award ($10,700,000) to build research capacity in the field of pathogenesis by fostering the development of junior scientists. She was PI and Director of a complex multi-investigator, multi-institution state research program called "One Medicine" and was the Director and contact PI of a complex Clinical and Translational Research program (U54) that worked in cooperation with the state of Alaska to foster development of scientists addressing health disparities in rural communities.

Dr. Voyich has a proven commitment to mentorship, having trained nearly 100 undergraduate students and graduated 12 Ph.D. and 16 M.S. students. Former Ph.D. students are in, or have completed, research-intensive postdoctoral positions e.g. NIH, Stanford, Johns Hopkins, University of Michigan, University of Massachusetts and the University of Washington. After completing postdocs her trainees are in permanent positions either in industry (Principal Medical Director, field support specialists) or academics (research scientists, tenure-track professors).She has been a COBRE, INBRE and K-award mentor as well as a Co-PI of a multi-investigator NIH-Science and Education Partnership Award. She is also an excellent instructor having received multiple teaching awards for her work in the University of Washington cooperative medical program known as WWAMI and as an undergraduate instructor of Medical Bacteriology. Her success in WWAMI was recognized and she was appointed Co-Chair of the University of Washington's Curriculum Renewal Committee, where she co-led the redesign of microbiology and immunology across all WWAMI sites (Washington, Wyoming, Alaska, Montana, and Idaho).

Dr. Voyich has extensive administrative experience, including being Chair of the Institutional Animal Care and Use Committee (IACUC), and current Chair of both the Institutional Biosafety Committee (IBC), and Conflict of Interest Committee. Dr. Voyich is currently the Department Head of Microbiology & Cell Biology. This is a complex administrative position overseeing ~590 undergraduate students, 55 graduate students and 25 tenure track professors. As Department Head she maintains robust NIH-funded laboratory and teaches in the WWAMI *Infections and Immunity* block.

Education and Professional Experience:

2020- Present: Professor and Department Head, Bacterial Pathogenesis, Department Microbiology & Cell Biology WWAMI Medical Education Program, Montana State University, Bozeman, MT

2019- Present: Affiliate Professor, Department of Microbiology, University of Washington School of Medicine

2018-Present: Professor, Bacterial Pathogenesis, Department of Microbiology & Immunology and WWAMI Medical Education Program, Montana State University, Bozeman, MT

2015-2019: Affiliate Associate Professor, Department of Microbiology, University of Washington School of Medicine

2012-2018: Associate Professor, Bacterial Pathogenesis, Department of Immunology Infectious Diseases and WWAMI Medical Education Program, Montana State University, Bozeman, MT

2006- 2012: Affiliate Assistant Professor, Department of Microbiology, University of Washington School of Medicine

2006-2012: Assistant Professor, Bacterial Pathogenesis, Department of Immunology and Infectious Diseases, and WWAMI Medical Education Program, Montana State University, Bozeman, MT

2001-2006: Postdoctoral Fellow, Laboratory of Human Bacterial Pathogenesis, Rocky Mountain Laboratories, NIAID, HIH, Hamilton, MT

1996 -2001: Graduate Teaching Assistant/Graduate Research Assistant, Department of Veterinary Molecular Biology, Montana State University, Bozeman, MT

1990-1994 B.S. in Biology, minor in Spanish, Montana State University, Bozeman, MT;

Administrative Experience:

- Department Head, Microbiology & Cell Biology Montana State University, Bozeman 2020-present
- Chair, Montana State University Conflict of Interest Committee 2025-
- Chair, Montana State Institutional Biosafety Committee 2019-
- Principle Investigator and Director for first-ever Montana Research and Economic Development Initiative (MREDI) Program on Translational Medicine; “One Medicine multi-component, multi-university grant, oversee 16 other investigators. (2016-2018)

- Chair, Faculty Advisory Committee Department of Microbiology and Immunology (2014-2018)

- Chair, Department of Microbiology and Immunology P&T Committee (2016)

- Co-Chair Curriculum Renewal Committee Block 2 Microbes and Defenders University of Washington School of Medicine (2014-2015) oversaw/co-led curriculum renewal of infectious diseases and immunology of all WWAMI sites (Washington, Wyoming, Alaska, Montana, Idaho)

- Vice-Chair Montana State University Institutional Biosafety Committee 2015-2019

- Chair, MEDS521 Microbiology and Infectious Diseases (renamed Invaders and Defenders) WWAMI Medical Education program (2006-2015) coordinate all instructors, including clinical faculty

- Chair, University Institutional Animal Care and Use Committee (2013 – 2014)

Selected Honors and Awards:

- 1990 Serbian National Federation International Scholarship
- 1990 – 1994 Alpha Lambda Delta
- 1994 - Phi Kappa Phi
- 2005 National Institutes of Health Fellows Award for Research Excellence
- 2008 2008 NIH Director's Award "Jobs Syndrome Group"
- 2008 COBRE Young Investigator Award
- 2010 WWAMI Medical Program Lucille Logan Excellence in Service Award
- 2010 WWAMI Medical Program Excellence in Education and Intellectual Growth of Future Physicians
- 2014 Merit Teaching Award from the North American Colleges and Teachers of Agriculture
- 2016 Montana State University College of Agriculture Distinguished Faculty Award
- 2017 Cox Family Fund for Excellence Faculty Award For Creative Scholarship and Teaching
- 2017 Montana State University Alumni and Bozeman Chamber of Commerce Mentor Award for Excellence
- 2017-2020 Beverly Ferguson Faculty Fellowship
- 2017 Provost's Distinguished Lecturer
- 2017 Most Valuable Professor (Cat-Griz)
- 2018 125 Extraordinary Ordinary Women of Montana State University
- 2022 Montana State University Alumni and Bozeman Chamber of Commerce Mentor Award for Excellence
- 2023 Montana State University Alumni and Bozeman Chamber of Commerce Mentor Award for Excellence
- 2026 Montana State University Alumni and Bozeman Chamber of Commerce Mentor Award for Excellence
- 2026 Montana State University Alumni and Bozeman Chamber of Commerce Mentor Award for Excellence

Notable University Service

- Member Montana State University Biosafety Committee (2006- 2013)
- Member Montana State University Institutional Animal Care and Use Committee (2007-2014)
- Member Montana State University Research Compliance Committee (2009-present)
- Chair, University Institutional Animal Care and Use Committee (2013 – 2014)
- Co-Chair Curriculum Renewal Committee Block 2 Microbes and Defenders University of Washington School of Medicine (2014-)
- Member, WA-MT Veterinary Cooperative Feasibility Committee (2011-2012)
- Admissions Committee WIMU Cooperative Veterinary Program (2013-2017)
- Chair, Faculty Advisory Committee Department of Microbiology and Immunology (2014-)
- Chair, Department of Microbiology and Immunology P&T Committee (2016)
- Vice-Chair Montana State University Biosafety Committee (2015-2019)
- Member, Montana State University Doctoral Program Prioritization Committee (2017-2018)
- Chair, Montana State University Institutional Biosafety Committee (2019-2020)
- Member Agricultural Animal Care and Use Committee (2023-)
- Member, Environmental Health and Safety Committee, Montana State University, (2025-)
- Ad-Hoc Member, Intuitional Animal Care and Use Committee Montana State University, (2020-)
- Member, Montana Asbestos Steering Committee (2023-)
- Member, Writing Across MSU Advisory Board (2024-)
- Member MSU President's Search Committee, Montana State University (2024-2025)
- Chair, Montana State University, Conflict of Interest Committee (2025-)
- MSU-Duke STAR Faculty Advisor (2025-)

Other Service

- Associate Editor, Journal of Innate Immunity (2024-present)
- Member Microbiology and Infectious Diseases Research Committee (MID-B, July 1, 2018-June 30, 2024)
- Ad-Hoc Member for NIH Topics in Bacterial Pathogenesis
- Ad-Hoc Member for NIH Bacterial Pathogenesis (BACP)
- Ad-Hoc Member Special Review Conflict of Interest Panel (BACP)
- Ad-Hoc Reviewer Wellcome Trust
- Department of Defense 2017 PRMRP Discovery Award Reviewer Antimicrobial Resistance
- Reviewer, *PLoS One*
- Reviewer, *PLoS Pathogens*
- Reviewer, *Microbes and Infection*
- Reviewer, *Journal Leukocyte Biology*
- Reviewer, *FEMS Microbiology*
- Reviewer*, Journal Infectious Diseases*
- Reviewer, *Journal of Antimicrobial Chemotherapy*
- Reviewer, *Journal of Innate Immunity*
- Reviewer, *Infection and Immunity*

- Reviewer, Nature, *Mucosal Immunology*
- PLoS ONE Academic Editorial Board 2011 – 2015

Notable Outreach Programs

- Infectious Diseases 101. Montana Tech Digging the Future Summer Camp. Butte, MT, June 28, 2007. Lecture to middle school students on infectious diseases and hands on laboratory on infectious diseases (~ 40 students).

- Community-Associated Methicillin Resistant *Staphylococcus aureus*. Park High School Livingston, MT Awareness Meeting. November 4, 2007. Educational seminar given to teachers and coaches about prevention and treatment of S. aureus infections.

- Helped with presentations to disseminate knowledge on MRSA to community members of the Crow and Northern Cheyenne Indian Reservations (2007 – 2008).

- Organized a health fair to screen for MRSA in individuals of the Northern Cheyenne Indian Reservation (2008).
- Intro to infectious diseases for students from Montana's Indian Reservations ~ 1 course every other year. (from 2007 -)

- Presentation: Montana State University – Bozeman, Veterinary Molecular Biology. Outreach to Park High School Students. *Infectious Disease Research Experience*. Lectured students and provided a hands-on laboratory experience. 10 Students, 2 Teachers, and 2 Administrators Participated. (Department of Veterinary, Molecular Biology, May 6, 2009).

- Introduction to Infectious Diseases. Sponsored Students from Stone Child College for a hands-on experience in Infectious Diseases, November 19, 2009, Montana State University – Bozeman.

- Billings Clinic Research Expo. Keynote speaker for the Eastern Montana Science Expo held March 26-27, 2010.

- Sponsored 8th Graders from Sleeping Giant Middle School, Livingston Montana for a hands-on experience in Infectious Diseases, May 18, 2011. Served as a mentor for the Science, Tech, Engineering and Math (STEM initiative from NSF).

- Co-PI on Science Education Partnership Award, SEPA (2011- 2016). This NIH grant is to promote science in rural Montana specifically to introduce 4-H teens to Bioscience Research. I had a science module where I introduced students to the study of infectious diseases and oversaw their individual research projects.

- Hosted Hopa Mountain Students for hands-on experience learning Mircobiology (2017-2019)

- *Curiositas, The Journal of Undergraduate Research* at MSU (2020-2023)
  Started *Curiositas* with a talented undergraduate student (Owen Burroughs). Curiositas aims to provide a dedicated platform for undergraduate researchers at MSU to share

their experiences working in research and provide resources for students interested in conducting research.

- Nasa Explore Camps (2022) weeklong module on infectious diseases to 4th-7th grade students.

- Grossology, Showcased Microbiology for Halloween at the Museum of the Rockies (2023)

- Scholars of Promise, hosted students in the Hopa Mountain Scholars of Promise program for a half day hands-on experience learning microbiology (2025, 2026)

List of Past and Current Ph.D. or M.S.Trainees,

Past Trainees:

- Tyler Nygaard: Ph.D. student, graduated May 2011. Completed Postdoctoral Fellowship at University of Michigan School of medicine, Department of Pathology (Mentor: Gabriel Nunez, MD). Completed NIH Postdoctoral Fellow National Institutes of Health, National Institute of Allergy and Infectious Diseases, Laboratory of Bacteriology (Mentor: Frank DeLeo, Ph.D.). Currently (since February 2017) Assistant Research Professor at Montana State University working in the Voyich Lab (11 papers with sponsor)

- Robert Watkins: Ph.D. student, graduated Spring 2013. Completed Postdoctoral Fellowship at Johns Hopkins University School of Medicine, Department of Dermatology (Mentor: Lloyd Miller, MD, Ph.D.) Currently employed at the FDA as a Biologist, (8 papers with sponsor).

- Oliwia Zurek: Ph.D. student, graduated spring 2015 (AHA pre-doctoral fellow awardee). Postdoctoral Fellow Stanford University School of Medicine Department of Pathology (Mentor: Stephen Galli, MD); Postdoc Genentech ; 7 papers as graduate student, currently Principal Medical Director, GI/Immunology US Medical Affairs.

- Caralyn Flack: Ph.D. student who graduated from University of Iowa but did dissertation research in my laboratory (2 papers as a graduate student one in PNAS). Currently a postdoctoral fellow at University of Utah.

- Eli Sward: Ph.D. student graduated spring 2017, employed as Associate Director of Field Applications Support at Geneyx, 3 papers as a graduate student

- Fermin Guerra: Ph.D. student graduated summer 2017, current position Research Fellow University of Washington (Mentor: Ferric Fang, M.D.), 8 papers as graduate student, with an additional two prepared for submission.

- Delisha Patel, Ph.D. student graduated Spring 2018. Assistant Professor of Occupational Therapy and Director of Research, Rocky Mountain College, currently Senior Associate Director of Research Affairs, USC, 2 publications as graduate student

- Danyelle Long: M.S. student, graduated spring 2012. Currently employed with Becton Dickenson and Company as a Scientist, one paper as a graduate student.

- Susan Meyer: M.S. student, graduated summer 2013. Currently a Physician Assistant

- Bennett Hisey: M.S. student graduated Fall 2016, Mesa Laboratories, one paper as a graduate student.

- Julia Mead, M.S. Plan B, attended medical school.

- Akash Koli, M.S. Plan B, employed as a laboratory quality control inspector for local food company, currently CEO of his self-started biotech company

- Timothy Borgogna: Ph.D. student graduated Fall 2019, Postdoc with Dr. Jay Evans, University of Montana, Postdoc with Dr. Phil Stewart, Montana State University, 5 publications as graduate student, currently Assistant Professor at the McLaughlin Research Institute (renamed Weissman/Hood Institute).

- Madison Collins: Ph.D. Spring 2020, Postdoctoral Fellow National Institutes of Health, National Institute of Allergy and Infectious Diseases (with Dr. Kim Hasenkrug) current position Assistant Professor Montana State University Billings, 2 publications as a graduate student

- Jennifer Dankoff: Ph.D. Spring 2022, currently employed as a Staff Scientist for Golden Helix, Inc., Bozeman, MT, 2 publications as a graduate student

- Brian Pettygrove, Ph.D. Spring 2022, co-advised with Dr. Phil Stewart. Postdoctoral Fellow National Institutes of Health, National Institute of Allergy and Infectious Diseases (Micheal Otto mentor), 4 publications as a graduate student

- Trisheena Kills Pretty Enemy, M.S. Plan B, applying to medical schools.

- Jose Saucedo, M.S. Health Sciences, applying to medical school

- Nate Rizk, M.S. Health Sciences, pursuing Interdisciplinary Ph.D. at MSU

- Zach Connelly, M.S. Health Sciences, currently in medical school

- Henry Bradford, M.S. plan B, currenty Ph.D student

- Rita Park, M.S. plan B, currently works at Mesa Labs

- Shawn Hartney, M.S. plan B attending Montana Medical Laboratory Sciences Program

- Naomi Redfield, M.S. plan B, attending the MT Veterinary Program

- MS – in Health Sciences Chair:
    - James Wenzloff, Julia Vandette, Ella Carlton, Tyler Johnson
    - Gio Carrochia

- Maria Predtechenskaya, Ph.D. awarded Fall 2024, ITHS fellowship awardee, two manuscripts, currently postdoctoral fellow at UMass Medical

- Henry Bradford, Interdisciplinary Ph.D. program, Dissertation on Medical Ethics, currently author generating study guides for medical students

Current Trainees:

- Guari Gaur, Ph.D. anticipated Spring 2027, two manuscripts published, two in preparation
- Patti Brewster, Ph.D. anticipated Fall 2026, one manuscript in preparation
- Loren Gray, M.S. plan A
- Oliver Werndorf, Ph.D. Co-Chair, anticipated Fall 2029
- MS – in Health Sciences Chair:
    - Hailey Lachenauer, Zach Stoddart, Carly DeBar, Cooper West

Undergraduate Mentorship:

In my laboratory, I routinely mentor undergraduate students, and students from junior colleges. In my tenure at MSU, I have hosted 92 undergraduate students and five first-year medical students. Many of these students received Hughes Scholars Research & Outreach Fellowships, McNair, and IDeA Networks of Biomedical Research Excellence (INBRE) and Undergraduate Research Scholarships.

Shannon Griffith, Tara Carter, Morgan McElwee, Sarah Russel-Field, Hannah Bigelow, Briana Carlson, Jamie Hart, Cassie Gibbs, and Maria (Betty) Spires, Sylver Belcourt, Kyle Roessler, Peter Ruzevich, Courtney Iverson, Mark DeWald, Nicole Sticka, Jafre Athman, Elizabeth Erikson, Shyam Shanmugam, Casey Ambrose, Mary Ilgenfritz, Meet Patel, Katie Olson, Brandon Haller, James Cwick, Will McGuinness, Karsten Lorentz, Kassidee Dalton, Carrie Mahurin, Cody Donaugh, Brent Von Schaumburg, Kaylee Krantz, Jessie Apple, Max Hamilton, Kristie Vandebergh, Samar Demachki, Victoria Foster, Elizabeth Gritzmacher, Andy Gregory, Mariele Lensink (high school student), Kristen Manass, Russel Spaan, Eric Krysinsky, Shea Kirkpatrick, Ryan Hauck, Rylee Studiner, Sarah Vangi, Willis Pullman, Kellie Corona, Tanner Robison, Emily Heitmann, Joe Azzolino, Kyle Glose, Sierra Higheagle, Justice Roberts, Ellie Poteat, Carolyn Harms, Jessie Tavener, Heidi Sielbach, Brock Cone, Max Fields, Meghan Meyers, Ella Carlton, Noel Redmon, Abigail O'Boyle, Hali Eversman, Joshua Wangerin, Shayla Johnson, Marc Hansmeier, Precious Imokhai, Owen Burroughs, Mikhaila Janes, Alexander Parks, Baillee Lee-Eichenwald, Oliver Werndorf, Tyler Evans, Cassandra Robinson, Jade Sautter, Kody Gust, Eliot LaTray, Ritu Bajwa, Annika Gao, Evan Lubick, Gabriella Graham,

Abbie Holinsworth, Mandy Ly, Naomi Shoenecker, Olivia Roman, Ryan Sather, Naomi Synder, Julia Thompson, Kanae Kido, Tevin Stauth, Nora Kusler, Carly Jensen

UW Medical Students Hosted in Lab:

Mike Kecskés, Kale Knudson, Angela Gail, *Conrad Addison, *Sofia Shomento

*Conrad Addison was Co-author on J Leukoc Biol. 2016 Nov;100(5):1005-1010

*Sofia Shomento won the 2023 MT-WWAMI research poster presentation, selected for an oral presentation for the 2024 Western Medical Research Conference (January 18-20, 2024 in Carmel, California) and was co-author on Microbiol Spectr. 2025 Jun 3;13(6):e0138624

Grants Awarded as Principal Investigator (Funding in Direct Costs)

- 2006-2009 NIH K22 Career Development Award ($250,000)
- 2007-2011 NIH-NRRI Center of Bioresearch Excellence (COBRE) project leader (total funding ~ $715,000)
- 2007-2010 USDA Seed Grant ($100,000)
- 2007-2011 IDeA Network for Biomedical Research Excellence (INBRE) NIH –NRRI project leader (~$340,000)
- 2010-2011 INBRE WSU-Spokane-Institute of Translational Health Sciences ($40,000)
- 2011-2014 NIH-R21 ($275,000)
- 2011-2016 NIH-R01 ($1,250,000)
- 2011-2013 NIH-R41 ($300,000 awarded as PI of University Component)
- 2013-2017 NIH-R42 ($800,000 awarded as PI of University Component)
- 2015-2017 MREDI State Funding Initiative One Medicine ($1,500,000)
- 2016-2017 NIH-P20 COBRE Pilot (50,000)
- 2017-2020 NIH R21 ($275,000)
- 2017-2021 NIH U54 ($16,239,643)
- 2018-2020 NIH R56 ($276,000)
- 2020-2026 NIH R01 ($3,118,501)

Grants as Co-PI/Co-I

- 2009- 2015 NIH R01 (Meissner) Immune Response to Pneumocystis and bone marrow failure.
- 2014- 2017 NIH R21 (Korotkova) Regulation of Hyaluronic Acid Capsule Biosynthesis in GAS
- 2011-2016 NIH R25 (Obbink, K.) Lead on Infectious Disease Outreach Program
- 2017- 2020 NIH R01 (Flores, A.) Contribution of LiaFSR to Pathogenesis and Carriage of Group A *Streptococcus*
- 2019-2021 DOD Discovery Award (Copié)
- 2019-2024 NIH R01 (Korotkova)
- 2021-2022 NIH R01 R56 (Stewart)
- 2026-2028 NIH R21 (Shamoo, Rice University)
- 2026-2030 U54: *Center for Advanced Molecular Pathogenesis* ($10,773,593)

  Name of PD/PI: Wiedenheft, B. and Voyich, J

*Major Goals: CAMP aims to foster recruitment, development, and retention of investigators who share a common interest in translating new discoveries in pathogenesis into new treatments, vaccines, and cures.

Notable Pending Awards:

- R21: *Investigating How Pulmonary Surfactants Reduce Staphylococcus aureus Cytolytic Capacity* ($398,750)

  Name of PD/PI: Voyich, J

  Major Goals: To investigate the mechanisms responsible for reduced cytolytic capacity in S. aureus exposed to pulmonary surfactants. Project will investigate ability of surfactants to modulate gene expression and membrane vesicle formation.

- R21: *Host-Biofilm Interaction: Examining the Neglected Battle Between Human Complement and Early Bacterial Aggregate Formation* ($398,750)

  Name of PD/PI: Voyich, J., Stewart, P.

  Major Goals: The project addresses a significant gap in knowledge by examining the early interactions between innate immunity and very early biofilm formation. Findings will confirm translational potential of targeting specific immune components as an immunotherapeutic approach to prevent medical implant infections, as well as other biofilm-related infections, including diabetic foot ulcers, endocarditis and osteomyelitis.

Student Graduate Fellowships

- Zurek AHA Pre-Doctoral Fellowship - The Role of Host Components in Regulation of Virulence in *Staphylococcus aureus*," Sponsored by American Heart Association), Private. (July 1, 2013 - June 30, 2015)
- Maria Predtechenskaya, UW ITHS, TL1 program awardee (June 1, 2023 – May 31, 2024)

Teaching

- Infections and Immunity MEDS 520, Micro lead, WWAMI Medical Education Program (2016-present, taught every fall semester)
- Course Chair MedS 521, Microbiology and Infectious Diseases (7 credits) WWAMI Medical Program 2006-2016 (taught every spring semester, 100 lecture hours)
- Course Co-Chair for MedS 520 Invaders and Defenders, name changed to Infection & Immunity (3 credits), lead on microbiology component 2016-present
- Course Chair BIOM 431, Medical Bacteriology (3 credits) 2011 – 2020 taught every spring semester (3 credits)
- Lecturer BIOM 400 Medical Microbiology (2006- present)
- Lecturer Montana Medical Laboratory Sciences (2010 – 2018)

Invited Talks, and Posters (as presenter or co-presenter)

- Presentation: COBRE speaker Annual COBRE meeting Big Sky Montana 2006 Sept. 21- 23. The role of SaeR/S in *S. aureus* pathogenesis.
- Invited Presentation: Carroll College, Helena MT Novermber 16, 2006. *Staphylococcus aureus*: a re-emerging pathogen.
- Invited Presentation: Montana State University – Bozeman, Department of Microbiology March 2, 2007. *Staphylococcus aureus*: a re-emerging pathogen
- Invited Presentation: Western IDeA States Symposium on Evolutionary Medicine March 15-16, 2007, Albuquerque, New Mexico. 2006. Evolution of Is Panton-Valentine Leukocidin the Major Virulence Determinant in Community Associated Methicillin-Resistant *Staphylococcus aureus* disease?
- Outreach Presentation: Infectious Diseases 101. Montana Tech Digging the Future Summer Camp. June 28, 2007.*
- Presentation: The SaeR/S Gene Regulatory System is Essential for Innate Immune Evasion in CA-MRSA strain MW2 (USA400) Montana INBRE and the Montana State University Center for Immunotherapies to Zoonotic Diseases (COBRE) Annual Fall Conference. Big Sky, Montana September 27-29, 2007.
- Outreach Presentation: Community-Associated Methicillin Resistant *Staphylococcus aureus*. Park High School Awareness Meeting. November 4, 2007.*
- Invited Presentation: Community-Associated Methicillin Resistant *Staphylococcus aureus*: Why so Virulent? St. Cloud MN February 4, 2008.*
- Invited Presentation: Host-Pathogen Interactions: Defining Virulence in Pathogenic Microorganisms. INBRE Student/Mentor Luncheon Keynote Speaker. April 22, 2008.
- The SaeR/S Gene-regulatory System is Essential for Innate Immune Evasion by CA-MRSA Jovanka M. Voyich*, C.,Vuong, M., DeWald, S., Kocianova, T. Nygaard, J.,Jones, S.,Griffith, C., Iverson, D., Sturdevant, K., Braughton, A., Whitney, M., Otto and F.R., DeLeo presented at the National IDeA Symposium of Biomedical Research Excellence in Washington, DC 2008
- Characterizing Virulence Factors and Antibiotic Resistance in Novel Staphylococcus aureus Strains. Cassie Gibbs, Rainer Grant, and Jovanka Voyich Kane. Presented at the Leadership Alliance National Symposium Hartford, CT July 26 -27, 2008;
- Community- associated MRSA : Understanding its Innate Immune Evasion Strategies, Maria Spire, Shannon Griffith, and Jovanka Voyich Kane. Presented at the Leadership Alliance National Symposium Hartford, CT July 26 -27, 2008).
- Understanding the Staphylococcus aureus stratagem to Avoid Innate Immunity._Rob Watkins, Shannon Griffith and Jovanka Voyich Kane. Presented at Montana State University – Bozeman, Annual Research Celebration, April 17, 2009.
- Role of the Staphylococcal Immunoglobulin-binding protein (SBI) in Innate Immune Evasion. Mark DeWald and Jovanka Voyich Kane. Presented at Montana State University – Bozeman, Annual Research Celebration, April 17, 2009.
- Expression and Function of CCL28. Eric Wilson, Tyler Nygaard, Shannon Griffith, Kathryn Distelhorst, Mellissa Hughes and Jovanka Voyich, AAI Meeting Seattle May 11, 2009.
- Invited Presentation: College of St. Benedict/St. John's University, Collegeville MN *Innate Immune Evasion Strategies, Secrets of a Superbug.* St. Cloud, MN, January, 2009.
- Invited Presentation: Montana State University – Bozeman Department of Microbiology. Role of the SaeR/S System in Invasive Staphylococcal Infection. April 17, 2009.
- Invited Presentation: Montana Tech of the University of Montana: Virulence Strategies of Pathogenic Microorganisms. October 23, 2008.

- SaeR binds a consensus sequence within virulence gene promoters to advance USA300 pathogenesis. Tyler K. Nygaard, Kyler Pallister, Peter Ruzevich, Shannon Griffith, Cuong Vuong and Jovanka M. Voyich. Wind River Conference on Prokaryotic Diseases. Estes Park CO, June 2009. Received a student travel award.
- *Staphylococcus aureus* Nasal Carriage in Horses and Horse Personnel. Sylver Belcourt, Kyler Pallister, and Jovanka Voyich Kane. Leadership Alliance National Symposium, Chantilly VA, July 24-26, 2009.
- SaeR binds a consensus sequence within virulence gene promoters to advance USA300 pathogenesis. Tyler K. Nygaard, Kyler Pallister, Peter Ruzevich, Shannon Griffith, Cuong Vuong and Jovanka M. Voyich. Gordon Conference on Staphylococcal Diseases. Waterville Valley, NH August 30 – September 4, 2009. Received a student travel award.
- SaeR binds a consensus sequence within virulence gene promoters to advance USA300 pathogenesis. Tyler K. Nygaard, Kyler Pallister, Peter Ruzevich, Shannon Griffith, Cuong Vuong and Jovanka M. Voyich. Western Region COBRE-INBRE Scientific Conference Travel Award (September 16-18, 2009)
- SaeR/S Promotes a Pro-Inflammatory Response following Invasive Infection. Robert Watkins, Shannon Griffith, and Jovanka Voyich. Western Region COBRE-INBRE Scientific Conference Travel Award (September 16-18, 2009)
- Invited Presentation: Community associated Methicillin-resistant *Staphylococcus aureus*. Leadership Montana, Museum of the Rockies November 18, 2009.
- Presentation: Montana State University – Bozeman, Veterinary Molecular Biology. Outreach to Park High School Students. *Infectious Disease Research Experience*. Lectured students and provided a hands-on laboratory experience. 10 Students, 2 Teachers, and 2 Administrators Participated. (Department of Veterinary, Molecular Biology, May 6, 2009).
- Invited Presentation: Evasion of Innate Immunity: Strategies of Community-associated MRSA Department of Biofilm Engineering, Montana State University- Bozeman (March 11, 2010)
- Invited Presentation: Billings Clinic Research Expo. Keynote speaker for the Eastern Montana Science Expo held March 26-27, 2010.
- Invited Presentation: Montana State University Honors Symposium. Role of Imagination in Science. April 12, 2010.
- Presentation: *Tyler Nygaard, and Jovanka Voyich. SaeR/S Mediates Pathogenesis of Staphylococcus aureus. Invited Speaker Montana Biofilm Science & Technology Meeting. February 9, 2011 * Presenter
- Invited Presentation: Evasion of Innate Immunity, Strategies of Staphylococcus aureus. Invited talk University of Washington, Department of Microbiology, November 30, 2010
- Megan R. Kiedrowski[1], Jeffrey S. Kavanaugh[1], Cheryl L. Malone[1], Joe M. Mootz[1], Jovanka M. Voyich[2], Mark S. Smeltzer[3], Kenneth W. Bayles[4] and Alexander R. Horswill[1*] Nuclease modulates biofilm formation in community-associated methicillin-resistant *Staphylococcus aureus*. International Conference on Gram-positive Pathogens October 10 -13, 2010.
- DuMont, A.L., T. K. Nygaard, R.L. Watkins, A. Smith, L. Kozhaya, B.N. Kreiswirth, B. Shopsin, D. Unutmaz, J.M. Voyich, and V. J. Torres. Characterization of a new cytotoxin that contributes to *Staphylococcus aureus* pathogenesis. International Conference on Gram-positive Pathogens October 10 -13, 2010.
- Variability of Community-associated MRSA Isolated from Native American Populations Jovanka Voyich, Shannon Griffith, Kyler Pallister, Mark DeWald, Rainer Grant, Mary Ilgenfritz, and Mike Kecskes. Presented at the National IDeA Symposium of Biomedical

Research Excellence Washington, DC June 14 – 16, 2010. Was selected for a highlighted research project.

- *Staphylococcus aureus* regulatory system SaeR/S Modulates Pro-Inflammatory Innate Immunity. Robert Watkins, Kyler Pallister, Shannon Griffith, Mark DeWald and Jovanka Voyich. Presented at the National IDeA Symposium of Biomedical Research Excellence Washington, DC June 14 – 16, 2010. Received Student Travel Award
- Shepardson, K.M., Grahl, N., Dewald, M., Voyich-Kane, J., and Cramer, R.A. Effect of hypoxia on antifungal responses of innate immune effector cells. MSU Graduate Recruitment Poster Session, March 4, 2011.
- Shepardson, K.M., Grahl, N., Dewald, M., Voyich-Kane, J., and Cramer, R.A. Effect of hypoxia on antifungal responses of innate immune effector cells. Gordon Research Conference: Immunology of Fungal Infections, January 16th – 21st, 2011, Galveston
- Watkins,R. Kyler B Pallister, and Jovanka M Voyich*SaeR/S-mediated Factors Elicit a Pro-inflammatory Cytokine Response During *Staphylococcus aureus* Infection MSU Graduate Recruitment Poster Session, March 4, 2011.
- Tyler K. Nygaard, Kyler Pallister, Peter Ruzevich, Shannon Griffith, Cuong Vuong and Jovanka M. Voyich. SaeR binds a consensus sequence within virulence gene promoters to advance USA300 pathogenesis. MSU Graduate Recruitment Poster Session, March 4, 2011.
- Invited Presentation: Watkins, Robert, and Jovanka Voyich, The SaeR/S Gene Regulatory System Induces a Pro-inflammatory Cytokine Response during Staphylococcus aureus Infection. Western Region IDeA Meeting June 8-10, 2011, Received a student travel award. *Watkins Presented
- Invited Presentation: Watkins, Robert, and Jovanka Voyich, The SaeR/S Gene Regulatory System Induces a Pro-inflammatory Cytokine Response during Staphylococcus aureus Infection. Wind River Conference on Prokaryotic Diseases. Estes Park CO, June 2011. Received a student travel award. *Watkins Presented
- Meyer, S. and Jovanka Voyich, The Impact of the ArlR/S Two-component Signal Transduction Regulatory System on Staphylococcus aureus Virulence. Wind River Conference on Prokaryotic Diseases. Estes Park CO, June 2011. Received a student travel award.
- Nygaard, T and Jovanka Voyich. The Influence of Alpha-toxin on USA300 Infection of Human Blood Cell Types. Wind River Conference on Prokaryotic Diseases. Estes Park CO, June 2011. Received a student travel award.
- Watkins, Robert, and Jovanka Voyich, The SaeR/S Gene Regulatory System Induces a Pro-inflammatory Cytokine Response during Staphylococcus aureus Infection. Gordon Research Conference on Staphylococcal Diseases, Lucca Italy July 24 – 29, 2011
- Nygaard, T and Jovanka Voyich. The Influence of Alpha-toxin on USA300 Infection of Human Blood Cell Types. Gordon Research Conference on Staphylococcal Diseases, Lucca Italy July 24 – 29, 2011
- Invited Presentation: Voyich, Jovanka. Innate Immune Evasion: Strategies of *Staphylococcus aureus*. University of Montana, Missoula, MT (September 2011).
- Invited Presentation: Voyich, Jovanka. Innate Immune Evasion: Strategies of *Staphylococcus aureus*. Brigham Young University, Provo, UT (October 20, 2011)
- Robert Watkins: 2012 (Oct)*Oral Presentation* and Poster Presentation: 45th Annual Meeting of the Society for Leukocyte Biology; Maui, Hawaii. Interleukin-17 is protective against *saeR/S*-mediated *Staphylococcus aureus* pathogenesis and is dependent on interferon-gamma gene activity.
- Robert Watkins: 2012 (Oct) Poster Presentation: International Conference on Gram-positive Pathogens; Omaha, NE. Interleukin-17 is protective against *saeR/S*-mediated

Staphylococcus aureus pathogenesis and is dependent on interferon-gamma gene activity.

- Robert Watkins: 2012 (Feb) Poster Presentation: Montana State University Graduate Recruitment; Montana State University. *Staphylococcus aureus* SaeR/S two-component system promotes a pro-inflammatory immune response.
- Oliwia Zurek: 2012 *The Role of Host Components in Regulation of Virulence in Staphylococcus aureus"* (4 abstracts/presentations on this project)

    - Autumn Immunology Conference, Chicago, IL, Nov 2012
    - Society for Leukocyte Biology Conference, Maui, HI, Oct 2012
    - International Conference on Gram-Positive Pathogens, Omaha, NE (oral presenatation)*, Oct 2012
    - American Society for Microbiology General Meeting, San Francisco, CA, June 2012

- *Nygaard, T.K.[1], Pallister, K.B.[1], DuMont, A.[2], DeWald, M.[1], **Watkins, R.L**.[1], Pallister, E.Q.[1], Griffith, S.[1], Horswill, A., Torres, V.J.[2], and J. M. Voyich**.** Alpha-toxin Induces Programmed Cell Death of Human T cells, B cells, and Monocytes During USA300 Infection.
- *Voyich, Innate Immune Evasion: Strategies of a Superbug, November 2012, Department of Microbiology, Montana State University, Invited Seminar
- *Susan Meyer Poster Presentation, International Conference on Gram-positive Pathogens; Omaha, NE, Oct 2012
- Katie Rowe (2013)
- Brent Von Schaumberg (2013)
- Oliwia Zurek (2013) What, Where and How: The influence of the innate immune system on Staphylococcus aureus virulence

    - American Society for Microbiology General Meeting, Denver, CO May 2013) Poster Presentation.
    - 7th International Conference on Gram-positive Microorganisms (Montecatini Terme, Tuscany, Italy June 2013). Oral presentation
    - London University College in the United Kingdom. Oral Presentation.
    - Gordon Research Conference on Staphylococcal Diseases, Waterville Valley, NH July 2013). Poster Presentation.

- Kyler Pallister, The SaeR/S two-component system induces interferon-gamma production in neutrophils during invasive Staphylococcus aureus infection. 7th International Conference on Gram-positive Microorganisms (Montecatini Terme, Tuscany, Italy June 2013).
- Voyich J. The *Staphylococcus aureus* SaeR/S System: Triggering Inflammation in the Host. Invited Talk Gordon Research Conference on Staphylococcal Diseases, Waterville Valley, NH, July 2013.
- Invited Presentation – *Differential regulation of Staphylococcus aureus virulence inresponse to host-derived stimuli.* NW ASM Meeting Seattle Washington October 17-19.
- Oliwia Zurek *Sensing Death: How the SaeR/S System Hijacks Cell Fate to Promote Disease"* Poster Presentation ISSSI Chicago IL August 2014.
  Also presented at the Society of Leukocyte Biology Oct 25, 2014
  oral and poster presentation

- Caralyn Flack *Differential regulation of staphylococcal virulence by the sensor kinase SaeS in response to neutrophil-derived stimuli* Poster Presentation ISSSI Chicago IL August 2014
- Delisha Meishery *Refined Pathogenesis of S. aureus in Response to Neutrophil-Derived Signals is Regulated by the Pathogen at the Single Amino Acid Level* Society of Leukocyte Biology Oct 25, 2014
  oral and poster presentation
- Eli Sward Society of Leukocyte Biology Oct 25, 2014 Role of TNFα in S. aureus pathogenesis, poster presentation Society of Leukocyte Biology Oct 25, 2014
- Invited Talk Ben Hisey International Conference on Gram-Positive Microorganisms (Montecatini, Italy, June 2015). Antecedent Influenza A Infection Increases *Staphylococcus aureus* SaeR/S-regulated Virulence Gene Expression during Pneumonia
- Eli Sward Role of TNFα in *S. aureus* pathogenesis Montecatini, Italy, June 2015
- Tim Borgogna Society of Leukocyte Biology (SLB) 2015 Raleigh, NC Antecedent Influenza A Triggers Virulence Gene Expression in *Staphylococcus aureus*
- *Flash Talk Fermin Guerra* Society of Leukocyte Biology (SLB) 2015 Raleigh, NC *Staphylococcus aureus* SaeR/S-regulated Factors Reduce Human Neutrophil Reactive Oxygen Species Production
- Tim Borgogna Northwest ASM meeting held in Seattle, WA (Nov 2015). Antecedent Influenza A Infection Increases *Staphylococcus aureus* SaeR/S-regulated Virulence Gene Expression during Pneumonia
- Delisha Meishery Gordon Conference on Staphylococcal Diseases in Lucca Italy (July 2015) Role of SaeR Phosphorylation in Regulation of *Staphylococcus aureus* Virulence Genes
- Fermin Guerra Gordon Conference on Staphylococcal Diseases in Lucca Italy (July 2015) Role of IL-17 and IFN-gamma in *Staphylococcus aureus* pathogenesis
- Invited Talk Northwest ASM Fermin Guerra meeting held in Seattle, WA (Nov 2015) *Staphylococcus aureus* SaeR/S-regulated Factors Reduce Human Neutrophil Reactive Oxygen Species Production.
- Tim Borgogna International Society for Microbial Ecology 2016 (Montreal Canada) poster “Antecedent Influenza A Triggers Virulence Gene Expression in *Staphylococcus aureus*.
- Invited Talk Graduate Student Choice University of Nebraska Medical Center, Evading the Neutrophil: Strategies of *S. aureus* March 23, 2016.
- Invited Talk, Montana Ag Summit, One Medicine, November 2016
- Invited talk The Domestic and Wild Sheep Symposium, One Medicine, February 9 and 10, 2017, Invited talk, Southern Illinois University School of Medicine, Evading the Neutrophil: Strategies of *S. aureus*, March 31, 2017
- Invited Talk, University of Washington Department of Microbiology, Evading the Neutrophil: Strategies of *S. aureus* May 9, 2017
- Flash Talk, Madison Collins, Society of Leukocyte Biology 50th Annual Meeting, Understanding the Regulation of Virulence in Staphylococcus aureus during Innate Immune Evasion, October 5, 2017
- Invited Talk, Fermin Guerra, Society of Leukocyte Biology 50th Annual Meeting Presidential Awardee Finalist, Neutrophil Superoxide Production is Inhibited by *Staphylococcus aureus* SaeR/S-regulated Factors, Vancouver, BC, October 5, 2017
- Tim Borgogna, Society of Leukocyte Biology 50th Annual Meeting, Poster, Immunological Changes in Host Lung Environment during Antecedent Influenza A Infection Lead to

Expression of *S. aureus* SaeR/S Dependent Virulence Expression during Secondary Bacterial Pneumonia, Vancouver, BC, October 5, 2017

- Eli Sward, Society of Leukocyte Biology 50th Annual Meeting, *Staphylococcus aureus* SaeR/S-regulated Factors Decrease Monocyte-derived TNF-α to Reduce Neutrophil Bactericidal Activity, Poster, Vancouver, BC, October 5, 2017
- Invited Talk, Montana State University SigEp Lecture Series: Antimicrobial Resistance: Role in Human Health, April 4, 2017
- Invited Talk, Provost Distinguished Lecture Series, Antimicrobial Resistance: Role in Human Health, March 20, 2018
- Tim Borgogna Gordon Research Conference on Staphylococcal Diseases, Barcelona Spain 2019 "Components of the Host Lung Environment Suppress Staphylococcus aureus Virulence"
- Tim Borgogna, Society for Leukocyte Biology General Meeting, Flash Talk, Boston, MA. 2019
- Tim Borgogna, Society for Leukocyte Biology Annual Meeting, Waikoloa Beach, HI 2022 "Tissue Disruption during Device Implantation Masks Contaminating *S. aureus aggregates*" Infection and Sepsis Winning Presentation
- 2nd International Virtual Conference on Staphylococcal Infection. "Uncovering the Executioner – Influenza and *S. aureus* Secondary Bacterial Pneumonia" passed invite to Tim Borgogna due to date conflict with administrative duties
- Osher Lifelong Learning Institute, Bozeman, MT. 2022, passed invite to Tim Borgogna due to date conflict with administrative duties
- "Influenza and Bacterial Superinfection: Uncovering the Executioner Leadership MSU, Bozeman, MT. 2022, passed invite to Tim Borgogna due to date conflict with administrative duties
- Maria Predtechenskaya Gordon Research Conference on Staphylococcal Diseases July 2023, Waterville Valley, NH "Lung surfactant protects against bacterial infection by modulating *Staphylococcus aureus* virulence
- Sofia Shomento won the 2023 MT-WWAMI research poster presentation, selected for an oral presentation for the 2024 Western Medical Research Conference (January 18-20, 2024 in Carmel, California)

Patents

U.S. Provisional Patent Application No. 62/899,016 **J. Voyich,** T. Borgogna "Surfactant to Treat Secondary Lung Infections"

Peer Review Publications

Link to Google Scholar Page
(https://scholar.google.com/citations?hl=en&user=XHtUkSwAAAAJ)

1. Burgess, D.E., **J. Voyich**, C. Shaia, S. Gillis. Adhesion and pathogenesis in parasitic protozoa. (1995) *Acta Medicina Philippina,* 31**:**127-136.

2. Shaia, C.S., **J. Voyich**, S. J.Gillis, B.N. Singh and D.E. Burgess. Purification and expression of the Tf190 adhesin in strains of *Tritrichomonas foetus*. (1998) *Infect. Immun.*, 66:1100-1105.

3. **Voyich, J.M**., A. Palecanda, and D.E.Burgess. Antigen specific T-cell responses in cattle immunized with antigens of *Tritrichomonas foetus.* (2001) *J. Parasitol*., 87:1040-1048.

4. **Voyich J.M,** R. Ansotegui, C. Swenson, J. Bailey, and D.E. Burgess. Antibody responses of cattle immunized with the Tf190 adhesin of *Tritrichomonas foetus*. (2001) *Clin. Diagn. Lab. Immunol.*, 8:1120-1125.

5. Kobayashi, S.D., **J.M. Voyich**, C.L. Buhl, R.M. Stahl, and F.R. DeLeo. Global changes in gene expression by human polymorphonuclear leukocytes during receptor-mediated phagocytosis: cell fate is regulated at the level of gene expression. (2002) *Proc. Natl. Acad. Sci.* USA, 99: 6901- 6906.

6. Hoe, N.P, R.M. Ireland, F.R. DeLeo, B.B. Gowen, D.W. Dorward, **J.M. Voyich**, M. Liu, E.H. Burns Jr., D.M. Culnan, A. Bretscher, and J.M. Musser. Insight into the molecular basis of pathogen abundance: group A *Streptococcus* inhibitor of complement inhibits bacterial adherence and internalization into human cells. (2002) *Proc. Natl. Acad. Sci.* USA, 99: 7646-7651. *Paper accompanied by a NIAID Press Release

7. Reid, S.D. N.M. Green, G.L. Sylva, **J.M. Voyich**, E.T. Stenseth, F.R. DeLeo, T. Palzkill, D.E. Low, H.R. Hill, and J.M. Musser. Postgenomic analysis of four novel antigens of group a *Streptococcus*: growth phase-dependent gene transcription and human serologic response. (2002) *J. Bacteriol*., 184: 6316-6324.

8. Lei, B., L.M. Smoot, H.M. Menning, **J.M. Voyich**, S.V. Kala, F.R. DeLeo, S.D. Reid, and J.M. Musser. Identification and characterization of a novel heme-associated cell-surface protein made by *Streptococcus pyogenes*. (2002) *Infect. Immun*., 70: 4494-4500.

9. Lei, B., F.R. Deleo, S.D. Reid, **J.M. Voyich**, L. Magoun,, M. Liu, K.R. Braughton, S. Ricklefs, N.P. Hoe, R.L. Cole, J.M. Leong, and J.M. Musser. Opsonophagocytosis-inhibiting mac protein of group a *Streptococcus*: identification and characteristics of two genetic complexes. (2002) *Infect. Immun*. 70: 6880-90.

10. **Voyich, J.M.** and F.R. DeLeo. Host-pathogen interactions: leukocyte phagocytosis and associated sequelae. (2002) *Methods Cell Sci*., 24**:** 79-90.

11. Kobayashi S.D., **J.M. Voyich**, G.A. Somerville, K.R. Braughton, H.L. Malech, J.M. Musser, and F.R. DeLeo. An apoptosis-differentiation program in human polymorphonuclear leukocytes facilitates resolution of inflammation. (2003) *J. Leukoc. Biol*., 73**:**315-322.

12. **Voyich, J.M**., D.E. Sturdevant, K.R. Braughton, S.D. Kobayahsi, B. Lei, K. Virtaneva, D.W. Dorward, J.M. Musser, and F.R. DeLeo. Genome-wide protective response used by group A *Streptococcus* to evade destruction by human polymorphonuclear leukocytes. (2003) *Proc. Natl. Acad. Sci.* USA, 100:1996-2001.
*Paper accompanied by a NIAID Press Release and an article in *Pulmonary Reviews*, 2003, 8:7, and in *Minerva* BMJ. 2003. 326: 508.

13. Kobayashi S.D., **J.M.Voyich,** K.R. Braughton, and F.R. DeLeo. Down-regulation of proinflammatory capacity during apoptosis in human polymorphonuclear leukocytes. (2003) *J. Immunol.*, 170: 3357- 3368.
Note: Kobayashi and **Voyich** contributed equally.

14. Kobayashi, S.D**.**, K.R. Braughton, A.R. Whitney, **J.M. Voyich,** T.G. Schwan, J.M. Musser, and F.R. DeLeo. Bacterial pathogens modulate an apoptosis differentiation program in human neutrophils. (2003) *Proc. Natl. Acad. Sci*. USA, 100**:** 10948-53.*Paper accompanied by a NIAID Press Release, and an article in *Nature Rev. Microbiol*. 2003, 1:87.

15. Lei, B., M. Liu, **J.M. Voyich,** C.I. Prater, S.V. Kala, F.R. DeLeo, and J.M. Musser. Identification and characterization of HtsA, a second heme-binding protein made by *Streptococcus pyogenes*. (2003) *Infect. Immun*., 71**:** 5962-5969.

16. Kobayashi, S.D., **J.M. Voyich,** and F.R. DeLeo. Regulation of the neutrophil-mediated inflammatory response to infection. (2003) (Review) *Microbes Infect*., 5: 1337- 1344.**Note:** Kobayashi and Voyich contributed equally.

17. S.D. Reid, A.G. Montgomery, J.M. Voyich, F.R. DeLeo, B. Lei, R.M. Ireland, N.M. Green, M. Liu, S. Lukomski, and J.M. Musser. Characterization of an extracellular virulence factor made by group A *Streptococcus* with homology to the *Listeria monocytogenes* internalin family of proteins. (2003) *Infect. Immun*., 71: 7043-7052.

18. Kobayashi, S.D., **J.M.Voyich,** K.R. Braughton, A.R. Whitney, W.M. Nauseef, H.L. Malech, and F.R. DeLeo. Gene expression profiling provides insight into the pathophysiology of chronic granulomatous disease. (2004) *J. Immunol*., 172: 636-643.

19. Vuong C., **J.M. Voyich**, E.R. Fischer, K.R. Braughton, A.R. Whitney, F.R. DeLeo, and M. Otto. Polysaccharide intercellular adhesin (PIA) protects *Staphylococcus epidermidis* against major components of the human innate immune system. (2004) *Cell. Microbiol*., 6: 269-275.

20. **Voyich, J.M.,** K. R. Braughton, D.E. Sturdevant, C. Vuong, S.D. Kobayashi, S.F. Porcella, J.M. Musser, M. Otto, and F.R. DeLeo. Engagement of the pathogen survival response used by group A *Streptococcus* to avert destruction by innate host defense.
(2004) *J. Immunol*., 173: 1194-1201. *Paper accompanied by a NIAID Press Release

21. Banks, D. J., S.F. Porcella, K.D. Barbian, S.B. Beres, L.E. Philips, **J.M. Voyich**, F.R. DeLeo, J.M. Martin, G.A. Somerville, and J.M. Musser. Progress toward characterization of the group A *Streptococcus* metagenome: complete genome sequence of a macrolide-resistant serotype M6 strain. (2004) *J. Infect. Dis*. 190: 727-738.

22. **Voyich, J. M**., J.M. Musser, and F.R. DeLeo. *Streptococcus pyogenes* and human neutrophils: a paradigm for evasion of innate host defense by bacterial pathogens. (2004) *Microbes Infect.*, 12: 1117-1123. (Cover/Review)

23. Vuong C., S. Kocianova, **J. M. Voyich**, Y. Yao, E.R. Fischer, F.R. DeLeo, and M. Otto. A crucial role for exopolysaccharide modification in bacterial biofilm formation, immune evasion, and virulence. (2004) *J. Biol.Chem*., 279: 54881- 54886.

24. Kocianova, S., C. Vuong, Y. Yao, **J. M. Voyich**, E.R. Fischer, F.R. DeLeo, and M. Otto. Key role of poly-γ-DL-glutamate capsule in human evasion and virulence of *Staphylococcus epidermidis*. (2005) *J. Clin. Invest*., 115: 688-694.

25. Borjesson D.L., A.R. Whitney, S.D. Kobayashi, **J.M. Voyich**, C.M. Argue, and F.R. DeLeo. Insights into pathogen immune evasion mechanisms: *Anaplasma phagocytophilum* fails to induce an apoptosis differentiation program in human neutrophils. (2005) *J. Immunol*., 174: 6364-6372.

26. **Voyich J. M**., K.R. Braughton, D.E. Sturdevant, A.R. Whitney, B. Saïd-Salim, S. Porcella, R. D. Long, D.W. Dorward, D.J. Gardner, B.N. Kreiswirth, J.M. Musser, and F.R. Deleo. Insights

into mechanisms used by *Staphylococcus aureus* to avoid destruction by human neutrophils. (2005) *J. Immunol.* 175: 3907-3919.*Paper accompanied by a NIAID Press Release, Faculty of 1000 Medicine, Factor 6.0 Must Read

27. Kobayashi, S. D. **J. M. Voyich**, A.R. Whitney and F. R. DeLeo. Insights into spontaneous neutrophil apoptosis and modulation of cell survival by granulocyte-macrophage colony stimulating factor. (2005) *J. Leuk. Biol.* 78: 1408-1418.
28. Kobayashi, S.D., **J. M. Voyich,** C. Burlak, and F. R. DeLeo. Neutrophils in the innate immune response. (2005) *AITE* 53: 505 – 517. **Note**: Kobayashi, **Voyich** and Burlak contributed equally

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32. **Voyich**, **J.M.,** Sturdevant,D.E., and Deleo,F.R. Analysis of *Staphylococcus aureus* gene expression during PMN phagocytosis (2008) *Methods Mol. Biol.* **431**:109-122.

33. T. K. Nygaard, F.R. DeLeo, and **J. M. Voyich.** Community-associated methicillin-resistant *Staphylococcus aureus* skin infections: advances toward identifying the key virulence factors. Invited Review. (2008) *Curr. Opin. Infect. Dis*. 21: 147 – 152.

34. **Voyich, J.M.,*** C.,Vuong, M., DeWald, S., Kocianova, T. Nygaard, J.,Jones, S.,Griffith, C., Iverson, D., Sturdevant, K., Braughton, A., Whitney, M., Otto and F.R., DeLeo. The SaeR/S Gene Regulatory System is Essential for Innate Immune Evasion by *Staphylococcus aureus*. (2009) *J. Infect. Dis.*199:1698-1706. *Corresponding author.

35. Morgan McElwee, Shannon Griffith, Jose Mediavilla, Barry Kreiswirth, **Jovanka Voyich** and Shannon Moreaux. Characterization of *Staphylococcus aureus* in Horses and Horse Personnel in Southwest Montana. *J of Equine Veterinary Science May 2009:* 29: 490-91.
36. Tyler K. Nygaard, Kyler Pallister, Peter Ruzevich, Shannon Griffith, Cuong Vuong and **Jovanka M. Voyich**. SaeR binds a consensus sequence within virulence gene promoters to advance USA300 pathogenesis (2010) *J. Infect. Dis. 201: 241-54.*

37. Distelhorst K, **Voyich J,** Wilson E. 2010. Partial characterization and distribution of the chemokines CCL25 and CCL28 in the bovine system. Vet Immunol Immunopathol. 2010

38. DuMont, A.L., T. K. Nygaard, R.L. Watkins, A. Smith, L. Kozhaya, B.N. Kreiswirth, B. Shopsin, D. Unutmaz, **J.M. Voyich**, and V. J. Torres, Characterization of a new cytotoxin

that contributes to *Staphylococcus aureus* pathogenesis. Mol Microbiol. 2011 Feb;79(3):814-25

39. Hoff JS, Dewald M, Moseley SL, Collins CM, and **J.M. Voyich**. SpyA, a C3-like ADP-ribosyltransferase, Contributes to Virulence in a Mouse Subcutaneous Model of Streptococcus pyogenes Infection. 2011. Infect. Immun. 79: 2404-2011.

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42. Kiedrowski MR, Kavanaugh JS, Malone CL, Mootz JM, **Voyich JM**, Smeltzer MS, Bayles KW, and A.R. Horswill. Nuclease modulates biofilm formation in community-associated methicillin-resistant *Staphylococcus aureus*. PLoS One. 2011;6(11):e26714

43. Rynda-Apple, A.*[†], Dobrinen, E.*, McAlpine, M.*, Read, A.*, Harmsen, A.*, Richert, L.E*, Calverley, M.*, Pallister,*K., **Voyich, J.***, Wiley, J. A.*, Johnson, B.[‡], Young, M.[§], McKenzie, A.**, Douglas, T.[‡], and A. G. Harmsen* Virus-like Particle-Induced Protection against MRSA Pneumonia Is Dependent on IL-13 and Enhancement of Phagocyte Function. 2012 Am. J. Path

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47. Staphylococcus aureus nuclease is a SaeR/S-dependent virulence factor. Olson ME, Nygaard TK, Ackermann L, Watkins RL, Zurek OW, Pallister KB, Griffith S, Kiedrowski MR, Flack CE, Kavanaugh JS, Kreiswirth BN, Horswill AR, **Voyich JM**. *Staphylococcus aureus* nuclease is a SaeR/S-dependent virulence factor. Infect. Immun. 2013 81(4):1316-24

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49. Nygaard TK, Pallister KB, Zurek OW, and **J.M.Voyich.** The impact of α-toxin on host cell plasma membrane permeability and cytokine expression during human blood infection by CA-MRSA USA300.J Leukoc Biol. 2013 94: 971-9 *One of the most downloaded publications from JLB during its first 6 months.

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