

# Curriculum Vitae

Name: Julia K. Bohannon, Ph.D.  
DOB: 04/20/1981  
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## Education and Training

- 1999 – 8/2003 B.S., Biology, with an option in Microbial, Cellular, and Molecular, Eastern Kentucky University, Richmond, KY.
- 2003 – 5/2005 Research Analyst, Department of Pharmacology, University of Kentucky College of Medicine, Lexington, KY.
- 2005 – 5/2011 Ph.D., Major in Microbiology and Immunology, University of Texas Medical Branch, Galveston, TX.
- 2011 – 5/2012 Postdoctoral Research Fellow, Department of Anesthesiology, University of Texas Medical Branch.  
  
Postdoctoral Certificate in Teaching and Mentoring and Postdoctoral Certificate in Critical Research Skills, Graduate School of Biomedical Sciences, University of Texas Medical Branch, Galveston, TX.  
  
Postdoctoral Certificate in Critical Research Skills, Graduate School of Biomedical Sciences, University of Texas Medical Branch, Galveston, TX.
- 2012 – 12/2014 Postdoctoral Research Fellow, Anesthesiology Research Division, Vanderbilt University, Nashville, TN.
- 2014 – 12/2015 NRSA Postdoctoral Trainee, Anesthesiology Research Division, Vanderbilt University, Nashville, TN.

## Professional Experience

- 2015 – 2017 Research Assistant Professor, Anesthesiology Research Division, Vanderbilt University Medical Center, Nashville, TN.
- 2018 – 2022 Assistant Professor of Anesthesiology, Basic Science Investigator Track, Vanderbilt University Medical Center, Nashville, TN.
- 2019 – 2022 Assistant Professor of Pathology, Microbiology, and Immunology, Secondary Appointment, Vanderbilt University Medical Center, Nashville, TN.
- 2022 – **Present** Associate Professor of Anesthesiology, with Tenure, Vanderbilt University Medical Center, Nashville, TN.  
  
Associate Professor of Pathology, Microbiology, and Immunology, with Tenure, Secondary Appointment, Vanderbilt University Medical Center, Nashville, TN.

## Grants and Funding

### Completed:

- 1/2014 – 12/2014 **F32 GM110811 NIGMS/NIH (PI: Julia Bohannon)**  
Title: The Effect of MPLA Treatment on Immune Responses to Infection after Severe Burn.  
The major goal of this study was to define the cellular and molecular mechanisms responsible for the protective effect afforded by the TLR4 agonist lipid A to a lethal burn wound infection.  
Role: PI
- 1/2015 – 5/2017 **R01 GM104306 NIGMS/NIH (PI: Edward Sherwood)**  
Title: Augmentation of Innate Anti-Microbial Immune Function by TLR4 Agonists.  
The major goal of this study is to define the cellular and molecular mechanisms that underlie the ability of the TLR4 agonist monophosphoryl lipid A to augment innate anti-microbial immune functions.  
Role: Co-Investigator
- 5/2016 – 1/2017 **VUMC Faculty Scholars Award K12 (PI: Julia Bohannon)**  
Title: Enhancing resistance to infection after burn injury with TLR agonists.  
The major goal of this study is to identify potential immunomodulatory strategies as a means of offering protection against infection after severe burn injury.  
Role: PI
- 4/2016 – 1/2020 **R01 GM119197 NIGMS/NIH (PI: David Williams/Edward Sherwood)**  
Title: Training innate immunity: A new approach to the treatment of sepsis.  
The major goal of this study is to characterize the phenomenon of innate immune system training after exposure to dectin-1 ligands.  
Role: Co-Investigator
- 7/2020 – 4/2021 **R35 GM138191 NIGMS/NIH (PI: Ryan Stark)**  
Title: Mechanisms of vascular dysfunction in acute systemic inflammation  
The major goal of this research program is to better understand mechanisms that affect acute endothelial-mediated vascular dysfunction in order to identify and treat patients with acute vasculopathy during systemic inflammation to improve clinical outcomes.  
Role: Co-Investigator (Effort removed upon funding of R35 GM141927).
- 2/2017 – 1/2022 **R01 GM121711 NIGMS/NIH (PI: Julia Bohannon)**  
Title: Enhancing Resistance to Infection after Burn Injury with TLR Agonists  
The long-term goal of this project is to better understand the distinct roles of MyD88- and TRIF-dependent signaling during immunomodulation with toll-like receptor agonists.  
Role: PI
- 06/2021 **R01 GM121711-05S1 NIGMS/NIH (PI: Julia Bohannon)**  
Administrative supplement - \$13,503 for undergraduate summer research project (Summer 2021).
- 06/2022 **R35 GM141927-02S1 NIGMS/NIH (PI: Julia Bohannon)**  
Administrative supplement - \$13,503 for undergraduate summer research project (Summer 2022).

### Active:

- 2/2020 – 1/2025 **R01 AI151210 NIAID/NIH (PI: Edward Sherwood)**

Title: Macrophage mitochondrial reprogramming and innate immune memory  
The primary goal of this project is to advance our understanding of the cellular and molecular immunology that underlies innate immune memory and harness unique ligands as drug products to improve host resistance to infection.  
Role: Co-Investigator – 10% effort

5/2021 – 4/2026

**R35 GM141927 NIGMS/NIH (PI: Julia Bohannon)**

Title: Protection Against Nosocomial Infections After Severe Burn Injury Through Trained Immunity.

The major goal of this research program is to investigate immunomodulatory therapies for prevention of infection following severe burn injury by elucidating burn-induced immunometabolic dysfunction and the potential for triggering trained immunity for protection after burn.

Role: PI – 51% effort

## **Professional Organizations and National Committees**

The American Association of Immunologists, regular member

Society for Leukocyte Biology, member

The Shock Society, member

Elliot Newman Society, member

The International Endotoxin and Innate Immunity Society (IEIIS), member

American Burn Association, member

International Trained Immunity Consortium (INTRIM), member

## **Awards / Honors**

### **Awards**

2005 Toxicology Scholars Award, UTMB  
2008 NIEHS Pre-doctoral Fellowship (T32-ES07254) (2008-2010)  
2009 GSBS Associates Scholarship, UTMB  
2010 Edith and Robert Zinn Presidential Scholarship, UTMB  
2011 McLaughlin Postdoctoral Fellowship, UTMB (2011-2012)  
2014 NRSA F32 Postdoctoral Training Fellowship Award (F32-GM110811-01A1) (2014-2015)  
2015 Best poster presentation award, 11<sup>th</sup> Annual Anesthesiology Research Symposium, Vanderbilt University  
2016 Vanderbilt University Medical Center Faculty Clinical and Translational Research Scholars Award (2016-2017)  
2017 G. Jeanette Thorbecke Award, Society of Leukocyte Biology  
2018 College of Science Award, Eastern Kentucky University, College of Science  
2018 Professional Achievement Alumni Award, Eastern Kentucky University  
2022 Nominee for Basic Science Councilor, Shock Society  
2023 Nominee for Basic Science Councilor, Shock Society

### **Selected Conference Abstracts**

2013 Selected oral presentation, 36<sup>th</sup> Annual Conference on Shock, San Diego, CA.  
2014 Selected plenary oral presentation, top abstract, 37<sup>th</sup> Annual Conference on Shock, Charlotte, NC.

- 2015 Invited oral presentation 38<sup>th</sup> Annual Conference on Shock, Denver, CO.
- 2017 Selected for plenary oral presentation, top abstract, Innate Immune Memory Conference 2017, Cambridge, UK.
- 2107 Selected for plenary oral presentation, "Best of the Best" top abstract, 40<sup>th</sup> Annual Conference on Shock, Ft. Lauderdale, FL.
- 2017 Selected Thorbecke Awardee Presentation, Senior Awards Session, 50<sup>th</sup> Annual Meeting of SLB, Vancouver, BC
- 2018 Selected for oral presentation, top abstract, Joint Meeting of SLB & IEIIS 2018, Chandler, AZ.
- 2019 Selected for oral presentation, top abstract, Military Health Systems Research Symposium 2019, Kissimmee, FL.
- 2019 Selected oral presentation, INTRIM Consortium Meeting – 4<sup>th</sup> International Conference on Innate Immune Memory. Nijmegen, Netherlands.
- 2020 Selected for oral presentation, top abstract, Military Health Systems Research Symposium 2020, Kissimmee, FL (Meeting cancelled due to COVID-19).
- 2021 Selected for oral presentation, top abstract, Military Health Systems Research Symposium 2021, Kissimmee, FL.

### **Manuscript Recognitions**

- 2013 Manuscript figure selected for cover of *SHOCK Journal*, December 2013 issue
- 2016 Manuscript selected by the *Journal of Leukocyte Biology* for press release
- 2018 Manuscript figure selected for cover of *Journal of Immunology*, June 2018 issue
- 2018 Manuscript highlighted as top 10% of articles published in June 2018 issue of the *Journal of Immunology*

### **Media/PR Coverage**

- 2016 Vaccine adjuvant protects against post-burn infection. Science Daily, Science News, Press Release, April 1, 2016. <https://www.sciencedaily.com/releases/2016/04/160401101710.htm>.
- 2017 An Interview with 2017 Thorbecke Awardee Julia Bohannon. The Society of Leukocyte Biology, iSLB newsletter, Spring 2018, Vol 1, pp. 6-6. <https://www.leukocytebiology.org/assets/docs/iSLB/Spring%202018%20iSLB.pdf>
- 2018 College of Science Honors Horseman, Bohannon. EKU Stories. September 13, 2018. <https://stories.eku.edu/events/college-science-honors-horseman-bohannon>.
- Professional Achievement Awardee 2018 – Dr. Julia (Hogan) Bohannon. Eastern Kentucky University International Alumni Association. <https://www.alumni.eku.edu/s/1763/index.aspx?sid=1763&gid=2&pgid=1435>
- From the Ashes: EKU Alum Past Fuels Her Future. Richmond Register, Richmond, KY. October 18, 2018. [https://www.richmondregister.com/news/from-the-ashes-eku-alum-past-fuels-her-future/article\\_74de774b-7e77-536d-8e04-1c976b6a0abf.html](https://www.richmondregister.com/news/from-the-ashes-eku-alum-past-fuels-her-future/article_74de774b-7e77-536d-8e04-1c976b6a0abf.html).
- Novel Infection Fighter. VUMC Reporter. <https://news.vumc.org/2018/06/13/novel-infection-fighter/>.
- 2021 National Institute of General Medical Sciences Biomedical Beat Blog, which highlights NIGMS-supported scientists and their research for the general public. Profile article. October 6, 2021. <https://biobeat.nigms.nih.gov/2021/10/scientist-studies-burn-therapies-after->

[being-severely-burned-as-a-child/](#)

- 2022 Immune Podcast, by MicrobeTV – Live Recording at Society for Leukocyte Biology Plenary Session, Episode #61, Recorded October 28, 2022, Waikoloa, HA. Guest Speaker. <https://www.microbe.tv/immune/immune-61/>
- 2023 National Institute of General Medical Sciences Biomedical Beat Blog, which highlights NIGMS-supported scientists and their research for the general public. Featured Mentor, Mentoring Month. January 11, 2023. <https://biobeat.nigms.nih.gov/2023/01/mentoring-month-nigms-funded-researchers-make-mentoring-meaningful/>

## Publications

### In Preparation:

1. Owen AM, Wolfe S, Boykin OA, Patil NK, **Bohannon JK**. Review: Metabolic and Mitochondrial Dysfunction after Trauma. 2022. Slated for submission April **2023**.
2. McBride MA, Patil TK, Burelbach KR, Owen AM, Luan L, **Bohannon JK**, Stothers CL, Hernandez A, Sherwood ER, Patil NK. The Roles of Irg1 and Itaconate in TLR-Mediated Innate Immune Memory. Slated for submission April **2023**.
3. McBride MA, Stothers CL, Owen AM, Burelbach KR, **Bohannon JK**, Patil NK, Sherwood ER. Comparison of Beta-Glucan and TLR Agonist Trained Immunity. Slated for submission January **2023**.

### Submitted/Under Review:

1. Schaaf K, Landstreet S, Pugazenthi S, Quian E, Putz N, Siderova T, Owen A, Bohannon J, Ware L, Bastarache J, Shaver C. TLR4 on myeloid cells mediates airspace inflammation in response to cell-free hemoglobin predominantly via MyD88. *Am. J. Physiol. Lung Cell Mol. Physiol.* Submitted April 2023.

### Accepted/In Press:

1. Hernandez A, Patil NK, Brewer M, Delgado R, Himmel L, Lopez L, **Bohannon JK**, Owen A, Sherwood ER, de Castecker M. Pretreatment with a Novel Toll-like Receptor 4 Agonist Phosphorylated Hexaacyl Disaccharide Attenuates Renal Ischemia-Reperfusion Injury. *Am. J. Physiol. Renal Physiol.* Accepted – In Press – April 2023.

### Published:

1. Owen AM, Luan L, Stothers CL, Burelbach KR, McBride MA, Schaedel JF, Patil TK, Hernandez A, Patil NK, Wang J, Boykin O, Sherwood ER, **Bohannon JK**. MyD88-dependent signaling drives toll-like receptor-induced trained immunity via macrophage reprogramming. *Front Immunol.* 11 Nov. **2022**. Sec. Molecular Innate Immunity. <https://doi.org/10.3389/fimmu.2022.1044662>. PMID: 36439136.
2. Hernandez A, Zhou J, **Bohannon JK**, McBride MA, Gibson-Corley KN, Patil NK, Owen AM, Burelbach KR, Sherwood ER. Intrapulmonary Treatment with a Novel TLR4 Agonist Confers Protection Against Klebsiella Pneumonia. *Shock.* **2022** Aug 17; Online ahead of print. PMID: 36018281.
3. Burmeister DM, Supp DM, Clark RA, Tredget EE, Powell HM, Enkhbaatar P, **Bohannon JK**, Cancio LC, Hill DM, Nygaard RM. Advantages and Disadvantages of Using Small and Large Animals in Burn Research: Proceedings of the 2021 Research Special Interest Group. *J. Burn Care Res.* **2022** Sep 1; 1;43(5):1032-1041. PMID: 35778269.

4. Sherwood ER, Burelbach K, McBride M, Stothers CL, Owen AM, Hernandez A, Patil NK, Williams DL, **Bohannon JK**. Brief Review: Innate Immune Memory. *J Immunol*. **2022** Feb 15; 208(4): 785-792. PMID: 35115374.
5. Stothers CL, Burelbach KR, Owen AM, Patil NK, McBride MA, **Bohannon JK**, Luan L, Hernandez A, Patil TK, Williams DL, Sherwood ER. Beta-glucan induces distinct and protective innate immune memory in differentiated macrophages. *J Immunol*. **2021** Dec 1; 207(11): 2785-2798. PMID: 34740960.
6. Owen AM, Fults JB, Patil NK, Hernandez A, **Bohannon JK**. TLR agonists as mediators of trained immunity: mechanistic insight and immunotherapeutic potential to combat infection. *Front Immunol*. **2021** Feb 18; 11:622614. eCollection 2020. PMID: 33679711. PMCID: PMC7930332.
7. McBride MA, Patil TK, **Bohannon JK**, Hernandez A, Sherwood ER, Patil NK. Immune Checkpoints: Novel Therapeutic Targets to Attenuate Sepsis-Induced Immunosuppression. *Front Immunol*. **2021**. 11:624272. PMID: 336135563.
8. McBride MA, Owen AM, Stothers CL, Hernandez A, Luan L, Burelbach KR, Patil TK, **Bohannon JK**, Sherwood ER, Patil NK. The metabolic basis of immune dysfunction following sepsis and trauma. *Front Immunol*. 2020 May 29; 11:1043. eCollection **2020**. PMID: 325475553.
9. Fukuda S, Ihara K, **Bohannon JK**, Hernandez A, Patil N, Luan L, Stothers C, Stark R, Prough DS, Herndon DN, Sherwood ER, Enkhbaatar P. Monophosphoryl lipid A attenuates multiorgan dysfunction during post-burn *Pseudomonas aeruginosa* pneumonia in sheep. *SHOCK*. **2020** March; 53(3): 307-316. PMID: 31045990.
10. Hernandez A, Patil NK, Stothers C, Luan L, McBride MA, Owen AM, Burelbach KR, Williams DL, Sherwood ER, **Bohannon JK**. Immunobiology and application of toll-like receptor 4 agonists to augment host resistance to infection. *Pharmacol. Res*. **2019** Dec; 150:104502. PMID: 31689522.
11. Hernandez A, Luan L, Stothers C, Fults JB, Fensterheim BA, Patil NK, Guo Y, Wang J, Sherwood ER, **Bohannon JK**. Phosphorylated hexaacetyl disaccharides augment host resistance against common nosocomial pathogens. *Crit. Care Med*. **2019** Nov; 47(11): e930-e938. PMID: 31567352.
12. Patil NK, **Bohannon JK**, Hernandez A, Patil TK, Sherwood ER. Regulation of leukocyte function and inflammation by citric acid cycle intermediates. *J Leukoc Biol*. **2019** July; 106(1): 105-117. PMID: 30791134.
13. Stothers, CL, Luan L, Fensterheim BA, **Bohannon JK**. Hypoxia-inducible factor-1 $\alpha$  regulation of myeloid cells. *J Mol Med*. **2018** Dec; 96(12): 1293-1306. PMID: 30386909. PMCID: PMC6292431.
14. Fensterheim BA, Young JD, Luan L, Kleinbard R, Stothers C, Patil N, McAtee A, Guo Y, Trenary I, Fults JB, Sherwood ER, **Bohannon JK**. The TLR4 agonist monophosphoryl lipid A drives broad resistance to infection via dynamic reprogramming of macrophage metabolism. *J Immunol*. **2018** June 1; 200: 3777-3789. PMID: 29686054 PMCID: PMC5964009.  
**\*Manuscript figure selected for cover of Journal of Immunology, June issue.**  
**\*Manuscript highlighted as top 10% of articles published in June 2018 issue of the Journal of Immunology**
15. Patil NK, Luan L, **Bohannon JK**, Hernandez A, Guo Y, Sherwood ER. Frontline Science: Anti-PD-L1 protects against infection with common bacterial pathogens after burn injury. *J Leukoc. Biol*. **2018** Jan 8; 103(1):23-33. PMID: 29345058.

16. Guo Y, Patil NK, Luan L, **Bohannon JK**, Sherwood ER. The biology of natural killer cells during sepsis. *Immunology*. **2018** Feb; 153(2):190-202. PMID: 29064085. PMCID: PMC5765373.
17. Fensterheim, BA, Guo Y, Sherwood ER, **Bohannon JK**. The cytokine response to LPS does not predict the host response to infection. *J Immunol*. **2017** Apr 15; 198(8): 3264-3273. PMID: 28275139. PMCID: PMC5380530.
18. Bae L, **Bohannon JK**, Cui W, Vinish M, Toliver-Kinsky T. Fms-like tyrosine kinase-3 ligand increases resistance to burn wound infection through effects on plasmacytoid dendritic cells. *BMC Immunol*. **2017** Feb 22; 18(1):9. PMID: 28228109. PMCID: PMC5322596.
19. Guo Y, Luan L, Patil N, Wang J, **Bohannon JK**, Rabacal W, Fensterheim BA, Hernandez A, Sherwood E (2016) IL-15 enables septic shock by maintaining natural killer cell integrity and function. *J. Immunol*. **2017** Feb 1;198(3):1320-1333. PMID: 28031340. PMCID: PMC5263185.
20. Luan L, Patil NK, Guo Y, Hernandez A, **Bohannon JK**, Fensterheim BA, Wang J, Xu Y, Enkhbaatar P, Stark R, Sherwood ER. Comparative transcriptome profiles of human blood in response to the toll-like receptor 4 ligands lipopolysaccharide and monophosphoryl lipid A. *Sci. Rep*. **2017** Jan 5; 7:40050. PMID: 28053314. PMCID: PMC5215261.
21. Patil NK, **Bohannon JK**, Luan L, Guo Y, Fensterheim B, Hernandez A, Sherwood ER. Flt3 Ligand treatment attenuates T cell dysfunction and improves survival in a murine model of burn wound infection induced sepsis. *SHOCK*. **2017** Jan; 47(1):40-51. PMID: 27454384. PMCID: PMC5167662.
22. **Bohannon JK\***, Hernandez A\*, Luan L, Fensterheim BA, Guo Y, Patil NK, Wang J, Sherwood ER. The role of MyD88- and TRIF-dependent signaling in monophosphoryl lipid A-induced expansion and recruitment of innate immunocytes. *J. Leukoc. Biol*. **2016** Dec;100(6):1311-1322. PMID: 27354411. PMCID: PMC5109999. \*These authors contributed equally.
23. Patil NK, **Bohannon JK**, Sherwood ER. Immunotherapy: A Promising Approach to Reverse Sepsis-Induced Immunosuppression. *Pharmacol. Res*. **2016** Sep;111:688-702. PMID: 27468649. PMCID: PMC5026606.
24. **Bohannon JK**, Luan L, Hernandez A, Afzal A, Guo Y, Patil NK, Fensterheim B, Sherwood ER. Role of G-CSF in monophosphoryl lipid A-mediated augmentation of neutrophil functions after burn injury. *J. Leukoc. Biol*. **2016** Apr. 99(4):629-40. PMID: 26538529. PMCID: PMC4787290. \*Manuscript selected by the *Journal of Leukocyte Biology* for press release - [http://www.eurekalert.org/pub\\_releases/2016-04/foas-vap040116.php](http://www.eurekalert.org/pub_releases/2016-04/foas-vap040116.php).
25. Patil NK, Luan L, **Bohannon JK**, Guo Y, Hernandez A, Fensterheim B, Sherwood ER. IL-15 Superagonist Expands mCD8+ T, NK and NKT Cells after Burn Injury but Fails to Improve Outcome during Burn Wound Infection. *PLoS ONE*. 2016 Feb 9; 11(2):e0148452. eCollection **2016**. PMID: 26859674. PMCID: PMC4747596.
26. Guo Y, Luan L, Rabacal W, **Bohannon JK**, Fensterheim B, Hernandez A, Sherwood E. Cellular and molecular mechanisms of IL-15 superagonist-mediated immunotoxicity. *J. Immunol*. **2015** Sep 1; 195:2353-64. PMID: 26216888 PMCID: PMC4543906.
27. Herzig D, Luan L, **Bohannon JK**, Toliver-Kinsky T, Guo Y, Sherwood ER. The role of CXCL10 in the pathogenesis of experimental septic shock. *Crit Care*. **2014** Jun 2; 18:R113. PMID: 24890566. PMCID: PMC4075230.
28. **Bohannon JK**, Hernandez A, Enkhbaatar P, Adams WL, Sherwood ER. The Immunobiology of TLR4 Agonists: From Endotoxin Tolerance to Immunoadjuvants. *SHOCK*. **2013** Dec;

40:451-462. PMID: 23989337. PMCID: PMC3919163. **\*Manuscript figure selected for cover of *SHOCK Journal*, December issue.**

29. Herzig D, Fang G, Toliver-Kinsky T, Guo Y, **Bohannon JK**, Sherwood ER. STAT1-deficient mice are resistant to CLP-induced septic shock. *SHOCK*. **2012** Oct; 38:395-402. PMID: 22777121 PMCID: PMC3445722.
30. Porter NM, **Bohannon JK**, Curran-Rauhut M, Buechel HM, Dowling ALS, et al. Hippocampal CA1 Transcriptional Profile of Sleep Deprivation: Relation to Aging and Stress. *PLoS ONE*. **2012**; 7(7): e40128. doi:10.1371/journal.pone.0040128. PMID: 22792227 PMCID: PMC3390348.
31. **Bohannon JK**, Cui W, Sherwood E, Toliver-Kinsky T. Dendritic cell modification of neutrophil responses to infection after burn injury. *J. Immunol.* **2010** Sep 1; 185:2847-2853. PMID: 20679533 PMCID: PMC3100157.
32. **Bohannon J**, Cui W, Toliver-Kinsky T. Endogenous fms-like tyrosine kinase-3 ligand levels are not altered in mice after a severe burn and infection. *BMC Immunol.* **2009** Aug 28; 10:47. PMID: 19715582 PMCID: PMC2744912.
33. **Bohannon J**, Fang G, Cui W, Sherwood E, Toliver-Kinsky T. Fms-like tyrosine kinase-3 ligand alters antigen-specific responses to infections after severe burn injury. *SHOCK*. **2009** Oct; 32:435-441. PMID: 19752689 PMCID: PMC3100155.
34. **Bohannon J**, Cui W, Cox R, Przkora R, Sherwood E, Toliver-Kinsky T. Prophylactic treatment with Fms-like tyrosine kinase-3 ligand after burn injury enhances global immune responses to infection. *J. Immunol.* **2008** Mar 1; 180:3038-3048. PMID: 18292526.

#### Editorials/Book Chapters:

35. Patil NK, **Bohannon JK**, Vachharajani V, McCall CE. Editorial: The Roles of Mitochondria in Immunity. **2022** May 16; 13:914639. eCollection 2022. PMID: 35651600.
36. Hernandez A, Patil NK, **Bohannon JK**. A Murine Model of Full-Thickness Scald Burn Injury with Subsequent Wound and Systemic Bacterial Infection. *Methods Mol Bio.* **2021**;2321:111-120. PMID: 34048011.
37. **Bohannon JK**, Sherwood ER. What's New in Shock, April 2021? *Shock*. **2021** April 1; 55(4):419-422. PMID: 33730006.
38. Patil NK, **Bohannon JK**, Sherwood ER. Metabolism drives monocytes during activation and resolution of acute inflammation: What we do and don't know. *J Leukoc Biol.* **2019** Feb; 105(2): 211-213. PMID: 30618209.
39. **Bohannon JK**, Sherwood ER. What's New in Shock, July 2018? *Shock*. **2018** Jul; 50(1):1-4. PMID: 29889806.
40. **Bohannon JK**, Sherwood ER. Feeling the burn: Sphingolipid and infection risk after thermal injury. *J. Leukoc. Biol.* **2016** Dec; 100(6):1227-1228. PMID: 27909176.
41. **Bohannon JK**, Guo Y, Sherwood ER. The role of natural killer cells in the pathogenesis of sepsis: the ongoing enigma. *Crit Care.* **2012** Dec 11; 16:185. PMID: 23234545. PMCID: PMC3672611.

## **Presentations and Abstracts**

### Invited Lectures



- 2015 **Bohannon J.** Sherwood ER. Augmentation of Antimicrobial Immunity with TLR Agonists. 38<sup>th</sup> Annual Conference on Shock. Denver, CO. Parallel Session VI: Trained Immunity and Pattern Recognition Receptors in Critical Illness and Sepsis. **Invited Oral Presentation.**
- 2017 **Bohannon JK.** Augmentation of Antimicrobial Immunity with TLR Agonists. Vanderbilt University Medical Center, Department of Allergy/Pulmonary and Critical Care Medicine. April 3, 2017. **Grand Rounds Presentation.**
- Bohannon JK,** Fensterheim BA, Luan L, Fults J, Hernandez A, Sherwood ER. The TLR4 agonist Monophosphoryl Lipid A mediates broad protection against infection via augmentation of innate antimicrobial functions (Abstract 8). 2017 Society of Leukocyte Biology 50<sup>th</sup> Anniversary Meeting. Vancouver, BC Canada. October 2017. Senior Level Awards Session: **Jeanette Thorbecke Awardee Oral Presentation.**
- 2018 **Bohannon JK.** The protective role of TLR agonists in infection: Applications from bench to bedside. Vanderbilt University Medical Center, Department of Anesthesiology. July 2018. **Anesthesia Grand Rounds Presentation.**
- Bohannon JK.** Enhancing resistance to infection after burn injury with toll-like receptor agonists. Eastern Kentucky University. Department of Biology. Richmond, KY. September 2018. **Invited Lecture.**
- Bohannon JK.** Discovery of novel therapeutics for the prevention of infection in burn patients: Applications from Bench to Bedside. Eastern Kentucky University. Richmond, KY. September 2018. **Alumni Keynote Lecture 2018.**
- 2019 **Bohannon JK.** The Protective Role of TLR Agonists in Infection: From Bench to Bedside. University of Kentucky, Department of Pharmacology and Nutritional Sciences. April 11, 2019. **Invited Lecture.**
- 2020 **Bohannon JK.** Protection Against Infection after Burn Injury with TLR Agonists. VUMC PMI Departmental Seminar. December 2020.
- 2021 **Bohannon JK.** Research Special Interest Group Panel: Small Animal Models for Burn Sepsis: Pros and Cons. American Burn Association 53<sup>rd</sup> Annual Meeting. April 15, 2021. Virtual Conference. **Invited Panelist Speaker.**
- Bohannon JK.** TLR agonists mediate protection against severe nosocomial infections via innate immune training. Society of Leukocyte Biology 2021 Virtual Conference. Innate Immune Training Satellite Session. April 2021. **Invited Speaker. Session Chair.**
- 2022 **Bohannon JK.** Leukocyte Metabolic Dysfunction after Burn. 45<sup>th</sup> Annual Conference on Shock. Metabolism and Catabolism Session. June 2022. **Invited Speaker.**

**Oral Presentations/Abstracts First/Last Author (\* Published)**

- 2013 \***Bohannon, J.** Effect of MPLA on Immune Responses to a Burn Wound Infection (*Abstract 22*). 36<sup>th</sup> Annual Conference on Shock. San Diego, CA. June 2013. Selected Oral Presentation.
- Bohannon, J.** Augmentation of Innate Antimicrobial Immunity after Severe Burn Injury by a TLR4 Agonist, 9<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2013. Selected Oral Presentation.
- 2014 \***Bohannon J,** Luan L, Hernandez A, Sherwood E. MPLA Enhances Neutrophil Responses to Infection after Burn (*Abstract 2*). 37<sup>th</sup> Annual Conference on Shock. Charlotte, NC. SHOCK. 41: Supplement 2, 2014. June 2014. **Plenary Oral Presentation.**

- 2017 **Bohannon JK**, Fensterheim BA, Sherwood ER. Treatment with the TLR4 agonist monophosphoryl lipid A protects mice against severe Staphylococcus aureus infection via augmentation of innate antimicrobial cell functions. The Innate Immune Memory Conference 2017. Cambridge, UK, March 2017. **Plenary Oral Presentation.**
- \***Bohannon JK**, Fensterheim BA, Luan L, Hernandez A, Guo Y, Patil NK, Sherwood ER. Treatment with the TLR4 Agonist Monophosphoryl Lipid A Protects Mice Against Severe Staphylococcal aureus Infection Via Augmentation of Innate Antimicrobial Cell Functions (Abstract 47). 40<sup>th</sup> Annual Conference on Shock. Ft. Lauderdale, FL. SHOCK 47: Supplement 1, 2017. June 2017. **Plenary Oral Presentation: Best of Best 2.**
- Bohannon JK.** The TLR4 agonist Monophosphoryl Lipid A mediates broad protection against infection via augmentation of innate antimicrobial cell functions. Vanderbilt Translational Research Forum 2017. October 2017. **Plenary Oral Presentation.**
- 2018 **Bohannon JK**, Fensterheim BA, Luan L, Patil NK, Sherwood ER. The TLR4 Agonist Monophosphoryl Lipid a Induces Dynamic Reprogramming of Macrophage Metabolism for Enhancement of Antimicrobial Functions and Infection Resistance (Abstract 57). Joint Meeting of the Society for Leukocyte Biology and the International Endotoxin and Innate Immunity Society. Chandler, AZ. October 2018. Selected Oral Presentation and Poster.
- 2019 **Bohannon JK.** Prevention and Treatment of Post-Burn Infections in Mice and Sheep with the Toll-Like Receptor 4 Agonist Monophosphoryl Lipid A. 2019 Military Health Systems Research Symposium. Kissimmee, FL. August 19, 2019. Selected Oral Presentation.
- Bohannon JK**, Fensterheim BA, Hernandez A, Luan L, Patil NK, Fults JB, Stothers CL, Sherwood ER. TLR agonists mediate protection against severe nosocomial infections via activation of MYD88. 4<sup>th</sup> International Conference on Innate Immune Memory. Nijmegen, Netherlands. October 2019. Selected Oral Presentation – INTRIM Consortium Meeting.
- 2020 \*Hernandez A, Luan L, Fensterheim B, Fults J, Owen A, Sherwood ER, **Bohannon JK.** Prevention and treatment of post-burn infections in mice with toll-like receptor agonists. 2020 Military Health Systems Research Symposium. Kissimmee, FL. August 2020. Selected oral presentation. Meeting cancelled due to COVID-19.

**Poster Presentations/Abstracts First/Last Author (\* Published)**

- 2007 \***Bohannon, J.K.**, W. Cui, T. Toliver-Kinsky. Endogenous Flt3-ligand levels are not altered in mice after a severe burn and infection, 30<sup>th</sup> Annual Conference on Shock, Baltimore, MD. June 2007. Poster.
- 2008 \***Bohannon, J.**, Cui, W., Fang, G., Saito, A., Wen, X., Toliver-Kinsky, T. Dendritic cell growth factor fms-like tyrosine kinase-3 ligand enhances neutrophil migration and activation in response to infections, Society for Leukocyte Biology, Denver, CO, November 2008. Poster.
- 2010 \***Bohannon, J.**, Cui, W., Toliver-Kinsky, T. Dendritic cell modifications of neutrophil responses after burn injury, 33<sup>rd</sup> Annual Conference on Shock, Portland, OR, June 2010. Poster.
- 2012 **Bohannon, J.**, Sherwood, E. Effect of MPLA treatment on immune responses to a burn wound infection, Vanderbilt PMI Departmental Retreat, Cheekwood Botanical Gardens, November 2012. Poster.
- Bohannon, J.**, Romero, C., Sherwood, E. Effect of MPLA treatment on immune responses to a burn wound infection, 8<sup>th</sup> Annual Anesthesiology Research Symposium, Vanderbilt University Medical Center, May 2012. Poster.

- Bohannon, J.**, Romero, C., Sherwood, E. Effect of MPLA treatment on immune responses to a burn wound infection, IHII/McLaughlin Colloquium, UTMB, April 2012. Poster.
- 2013 **Bohannon, J.**, Sherwood, E. Effect of MPLA treatment on immune responses to a burn wound infection, Vanderbilt Postdoctoral Research and Shared Resources Symposium 2013. Vanderbilt University. April 2013. Poster.
- 2014 \***Bohannon J**, Luan L, Hernandez A, Sherwood E. Treatment with TLR4 Agonist Monophosphoryl Lipid A Enhances Neutrophil Responses to Infection after Burn (*Abstract 77*). Joint Meeting of the Society for Leukocyte Biology and the International Endotoxin and Innate Immunity Society. Salt Lake City, UT. October 2014. Poster.
- Bohannon J**, Luan L, Hernandez A, Sherwood E. MPLA Enhances Neutrophil Responses to Infection after Burn. 10<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2014. Poster.
- Bohannon J**, Luan L, Hernandez A, Sherwood E. MPLA Enhances Neutrophil Responses to Infection after Burn. Postdoctoral Research and Shared Resources Symposium 2014. Vanderbilt University. April 2014. Poster.
- 2015 **J. Bohannon**, L. Luan, A. Hernandez, A. Afzal, E. Sherwood. Treatment with TLR Agoinists Enhances Neutrophil-Mediated Responses to Infection. TOLL 2015 Meeting: Targeting Innate Immunity. Marbella, Spain. Abstract Book p. 226. Poster.
- \***J. Bohannon**, L. Luan, A. Hernandez, E. Sherwood. Treatment with a TLR4 Agonist Enhances Neutrophil Responses to Infection after Burn (*Abstract P11*). 38<sup>th</sup> Annual Conference on Shock. Denver, CO. SHOCK. 43: Supplement 1, June 2015. Poster.
- \***Bohannon, J.**, Luan, L., Hernandez, A., Sherwood, E. MPLA mediates protection against infection after severe burn through enhancement of neutrophil mobilization and recruitment: role of G-CSF. 11<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2015. Poster. *Best Poster Presentation Award*.
- 2016 **Bohannon JK**, Luan L, Hernandez A, Fensterheim B, Guo Y, Sherwood E. Treatment with TLR4 agonists protect against infection after severe burn injury. 12<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2016. Poster.
- \***Bohannon JK**, Luan L, Hernandez A, Fensterheim B, Guo Y, Sherwood E. Treatment with TLR4 agonists protect against infection after severe burn injury. *J. Immunol* 2016. 196:200.17 (Abstr.) AAI Annual Meeting – Immunology 2016, Seattle, WA May 2016. Poster.
- \***Bohannon JK**, Luan L, Hernandez A, Fensterheim BA, Guo Y, Sherwood E. Treatment with TLR Agonists Protect Against Infection after Severe Burn Injury (*Abstract P169*). 39<sup>th</sup> Annual Conference on Shock. Austin, TX. *SHOCK*. 45: Supplement I, June 2016. Poster.
- Bohannon JK**, Hernandez A, Fensterheim B, Luan L, Sherwood E. Treatment with TLR Agonists Protect Against Infection after Severe Burn Injury. 2016 Vanderbilt Translational Research Forum. October 2016. Poster.
- 2017 **Bohannon JK**, Treatment with the TLR4 agonist monophosphoryl lipid A protects mice against severe Staphylococcus aureus infection via augmentation of innate antimicrobial cell functions. The Innate Immune Memory Conference 2017. Cambridge, UK, March 2017. Poster.
- Bohannon JK**, Fensterheim B, Sherwood ER. Treatment with MPLA Augments Innate Antimicrobial Responses Against Staphylococcus aureus Infection. Vanderbilt Symposium on Infection and Immunology. April 13, 2017. Poster.

**Bohannon JK**, Fensterheim B, Luan L, Hernandez A, Guo Y, Patil N, Sherwood E. Treatment with the TLR4 agonist monophosphoryl lipid A protects mice against severe Staphylococcus aureus infection via augmentation of innate antimicrobial cell functions. 13<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. April 2017. Poster.

Fensterheim BA, Sherwood ER, **Bohannon JK**. Treatment with the TLR4 agonist monophosphoryl lipid A protects mice against severe Staphylococcus aureus infection via augmentation of innate antimicrobial cell functions. Southeastern Immunology Symposium. Vanderbilt University, Nashville, TN. June 2017. Poster.

**Bohannon JK**, Fensterheim BA, Luan L, Fults J, Hernandez A, Sherwood ER. The TLR4 agonist Monophosphoryl Lipid A mediates broad protection against infection via augmentation of innate antimicrobial functions (Abstract 8). 2017 Society of Leukocyte Biology 50<sup>th</sup> Anniversary Meeting. Vancouver, BC Canada. October 2017. Poster.

2018

**Bohannon JK**, Fensterheim B, Luan L, Fults JB, Hernandez A, Patil NK, Sherwood ER. Treatment with TLR agonists protect against severe nosocomial infections. 14<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. April 2018. Poster.

\***Bohannon JK**, Fensterheim BA, Young JD, Trenary I, Luan L, Sherwood ER. The TLR4 agonist monophosphoryl lipid A induces dynamic reprogramming of macrophage metabolism for enhancement of antimicrobial functions and infection resistance (Abstract P126). 41<sup>st</sup> Annual Conference on Shock. Scottsdale, AZ. SHOCK. 49: Supplement 1, June 2018. Poster.

\***Bohannon JK**, Fensterheim B, Luan L, Fults JB, Hernandez A, Patil NK, Sherwood ER. Treatment with TLR agonists protect against severe nosocomial infections (Abstract P127). 41<sup>st</sup> Annual Conference on Shock. Scottsdale, AZ. SHOCK. 49: Supplement 1, June 2018. Poster.

**Bohannon JK**, Luan L, Hernandez A, Sherwood ER. Prevention and treatment of post-burn infections with the toll-like receptor agonist monophosphoryl lipid A (Abstract MHSRS-18-1476). Military Health System Research Symposium (MHSRS) 2018. Kissimmee, FL. August 2018. Poster.

**Bohannon JK**, Fensterheim BA, Luan L, Patil NK, Sherwood E. The TLR4 agonist monophosphoryl lipid A induces dynamic reprogramming of macrophage metabolism for enhancement of antimicrobial functions and infection resistance (Abstract 57). Joint Meeting of the Society for Leukocyte Biology and the International Endotoxin and Innate Immunity Society. Chandler, AZ. October 2018. Poster.

**Bohannon JK**, Fensterheim BA, Luan L, Fults JB, Hernandez A, Patil NK, Sherwood ER. Treatment with TLR Agonists Protect Against Severe Nosocomial Infections (Abstract 62). Joint Meeting of the Society for Leukocyte Biology and the International Endotoxin and Innate Immunity Society. Chandler, AZ. October 2018. Poster.

2019

**Bohannon JK**. MyD88-dependent signaling is essential for TLR agonist-mediated protection against severe nosocomial infections. 15<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2019. Poster.

\***Bohannon JK**, Fensterheim BA, Luan L, Hernandez A, Patil NK, Fults JB, Stothers CL, Sherwood ER. MyD88-dependent signaling is essential for TLR agonist-mediated protection against severe nosocomial infections (Abstract P193). 42<sup>nd</sup> Annual Conference on Shock. Coronado, CA. SHOCK. 51: Supplement 1, June 2019. Poster.

**Bohannon JK**, Luan L, Hernandez A, Fensterheim BA, Patil NK, Stothers CL, Fults JB, Sherwood ER. Treatment with TLR agonists protect against severe nosocomial infections via

activation of MyD88 signaling. 52<sup>nd</sup> Annual Meeting of the Society for Leukocyte Biology. Boston, MA. November 2019. Poster.

**Senior Authored Abstracts (resulting from mentorships where mentee was presenter; \*, published)**

- 2011 Sherwood, L., Bohannon, J. DC modification of neutrophil responses after burn, Bench Tutorials Program Year-End Symposium, UTMB, May 2011. **2<sup>nd</sup> Place Prize. Poster.**
- 2017 Fensterheim BA, Guo Y, Sherwood ER, Bohannon J. The LPS-elicited cytokine does not predict the host response to infection. The Innate Immune Memory Conference 2017. Cambridge, UK, March 2017. Poster.
- Fensterheim B, Young Jamey, Sherwood E, Bohannon J. Monophosphoryl lipid A induces persistent alterations to macrophage metabolism and antimicrobial function. 13<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. April 2017. Poster.
- \*Fensterheim BA, Guo Y, Sherwood ER, Bohannon JK. The LPS-Elicited Cytokine Response Does Not Predict the Host Response to Infection. (Abstract P120). 40<sup>th</sup> Annual Conference on Shock. Ft. Lauderdale, FL. SHOCK 47: Supplement 1, 2017. June 2017. Poster.
- 2018 \*Luan L, Fensterheim BA, Stothers C, Fults JB, Guo Y, Patil NK, Sherwood ER, Bohannon JK. The TLR4 agonist monophosphoryl lipid A mediates broad protection against infection via augmentation of innate antimicrobial cell functions (Abstract 24). 41<sup>st</sup> Annual Conference on Shock. Scottsdale, AZ. SHOCK. 49: Supplement 1, June 2018. Selected Oral Presentation.
- Luan L, Fensterheim BA, Stothers CL, Guo Y, Patil NK, Sherwood ER, Bohannon JK. The TLR4 Agonist Monophosphoryl Lipid a Mediates Broad Protection Against Infection via Augmentation of Innate Antimicrobial Functions (Abstract 61). Joint Meeting of the Society for Leukocyte Biology and the International Endotoxin and Innate Immunity Society. Chandler, AZ. October 2018. Poster.
- \*Fults JB, Fensterheim BA, Luan L, Hernandez A, Sherwood ER, Bohannon JK. The Protective Role of TLR Agonists in Infection: Applications from Bench to Bedside. The Anesthesiology Annual Meeting (ASA). San Francisco, CA. October 2018. Poster.
- 2019 \*Hernandez A, Luan L, Stothers CL, Fults JB, Fensterheim BA, Patil NK, Guo Y, Wang J, Sherwood ER, Bohannon JK. Novel synthetic toll-like receptor 4 agonists enhance resistance to infection with common bacterial pathogens (Abstract 52). 42<sup>nd</sup> Annual Conference on Shock. Coronado, CA. SHOCK. 51: Supplement 1, June 2019. Selected Oral Presentation.
- Hernandez A, Sherwood ER, Bohannon JK. Enhancing resistance to nosocomial infections with synthetic toll-like receptor agonists (MHSRS-19-01827). Military Health Systems Research Symposium 2019. August 2019. Kissimmee, FL. Poster.
- Fults J, Fensterheim BA, Luan L, Hernandez A, Sherwood ER, Bohannon JK. MYD88 is important for TLR agonist-mediated protection against severe nosocomial infections. HOSA 42<sup>nd</sup> Annual International Leadership Conference. Orlando, FL. June 2019. Selected Oral Presentation.
- Fults J, Fensterheim BA, Luan L, Hernandez A, Sherwood ER, Bohannon JK. Enhancement of innate anti-microbial immunity using phosphorylated hexaacyl disaccharides. HOSA 42<sup>nd</sup> Annual International Leadership Conference. Orlando, FL. June 2019. Selected Oral Presentation.

Hernandez A, Luan L, Stothers CL, Patil NK, Fults JB, Fensterheim BA, Wang J, Sherwood ER, **Bohannon JK**. Phosphorylated hexaacyldisaccharides induce trained innate immunity and resistance to infection with nosocomial pathogens. 4<sup>th</sup> International Conference on Innate Immune Memory. Nijmegen, Netherlands. October 2019. Poster.

Hernandez A, Luan L, Stothers CL, Patil NK, Fults JB, Fensterheim BA, Wang J, Sherwood ER, **Bohannon JK**. Novel synthetic toll-like receptor 4 agonists enhance survival and augment resistance against Gram-negative and Gram-positive infection. 52<sup>nd</sup> Annual Meeting of the Society for Leukocyte Biology. Boston, MA. November 2019. Poster.

2020

\*Owen AM, Luan L., Fensterheim B, Hernandez A, Stothers C, Fults JB, Patil NK, Sherwood ER, Burelbach KR, McBride MA, **Bohannon JK**. MyD88-specific TLR agonists mediate protection against nosocomial infections through macrophage reprogramming (Abstract 38). 43<sup>rd</sup> Annual Conference on Shock. Toronto, BC, CA. SHOCK. 53: Supplement 1S. June 2020. Selected Oral Presentation. Meeting cancelled due to COVID-19.

\*Fults JB, Owen AM, Luan L, Fensterheim BA, Hernandez A, Stothers CL, Patil N, Sherwood ER, McBride MA, **Bohannon JK**. Application of MyD88-selective toll-like receptor (TLR) agonist protection in nosocomial infections. The Anesthesiology Annual Meeting (ASA). San Francisco, CA. October 2020. Virtual Poster Presentation.

Owen AM, Luan L, Fensterheim BA, Hernandez A, Stothers CL, Fults JB, Patil N, Sherwood ER, **Bohannon JK**. Toll-like receptor agonists mediate protection against infection via MyD88-dependent signaling. 14<sup>th</sup> Annual Vanderbilt Postdoctoral Association Symposium. October 2020. Virtual Poster Presentation.

Owen AM, Luan L, Fults JB, Hernandez A, Patil N, Sherwood ER, **Bohannon JK**. MyD88-dependent TLR signaling enhances macrophage antimicrobial function and drives host resistance to infection. Society of Leukocyte Biology 2020 Bringing Science to You Virtual Meeting. October 2020. Selected Live Virtual Oral Presentation and Q&A Session. **SLB Video Abstract Spotlight Awardee**.

2021

Owen AM, Luan L, Fensterheim BA, Hernandez A, Stothers CL, Fults JB, Patil N, Sherwood ER, **Bohannon JK**. MyD88-Dependent Toll-Like Receptor Signaling Triggers Trained Immunity Via Macrophage Metabolic Reprogramming. 2021 BH Robbins Research Symposium, Department of Anesthesiology Vanderbilt University Medical Center. Virtual Poster Presentation. May 2021.

Owen AM, Luan L, Fensterheim BA, Stothers CL, Fults JB, Sherwood ER, **Bohannon JK**. MyD88-Dependent Toll-Like Receptor Signaling Triggers Trained Immunity Via Macrophage Metabolic Reprogramming. FOCiS 2021 Virtual Annual Meeting. June 2021. Virtual Poster Presentation.

\*Owen AM, Luan L, Stothers CL, McBride MA, Burelbach KR, Schaedel JF, Sherwood ER, **Bohannon JK**. MyD88-dependent signaling and macrophage reprogramming is critical for TLR-mediated host resistance to infection. The 44<sup>th</sup> Annual Conference on Shock. Virtual Conference, October 2021. Poster.

2022

Owen AM, Luan L, Stothers CL, Schaedel JF, McBride MA, Burelbach KR, Sherwood ER, **Bohannon JK**. MyD88-Dependent Signaling Drives TLR-Mediated Trained Immunity and Infection Resistance Via Macrophage Reprogramming. Keystone Symposia Innate Immune Memory: From Evolutionary Roots to Human Disease. Banff, Alberta, Canada. March 2022. Selected Oral Presentation. **Selected Scholarship Awardee**.

\*Owen AM, Luan L, Stothers C, McBride MA, Burelbach KR, Schaedel JF, Sherwood E, **Bohannon J**. MyD88-Dependent Signaling and Macrophage Reprogramming Drive TLR-Mediated Host Resistance to Infection. The 45<sup>th</sup> Annual Conference on Shock. 405; June 2022. Selected Oral Presentation. **Presidential Travel Awardee**.

Owen AM, Luan L, Stothers CL, McBride MA, Burelbach KR, Schaedel JF, Sherwood ER, **Bohannon JK**. MyD88 Signaling Drives TLR-Mediated Trained Immunity via Macrophage Reprogramming. 55<sup>th</sup> Annual Society for Leukocyte Biology Meeting. October 2022. Waikoloa, HI. Selected Oral Presentation. **Presidential Scholar Finalist – 2<sup>nd</sup> Place**.

### Other Co-Authored Abstracts (\* Published)

- 2006 Garza A., **Bohannon JK**, and Toliver-Kinsky T. Treatment of mice with Fms-like tyrosine kinase-3 ligand increases the activation of immune cells in response to a bacterial burn wound infection. HSSRP poster session, July 2006, UTMB
- 2007 C. Graham, W. Cui, **J. Bohannon**, and T. Toliver-Kinsky. In vitro response of plasmacytoid dendritic cells to fms-like tyrosine kinase-3 ligand treatment. Presented at SURP poster session, UTMB, August 2007.
- J. Garcia, **J. Bohannon** and T. Toliver-Kinsky. The role of Flt3 Ligand in the enhancement of immune function after burn injury. Presented at HSSRP poster session, UTMB, August 2007.
- 2008 JR Williams, W Cui, G Fang, J Bohannon, T Toliver-Kinsky. Dendritic cell modulation enhances neutrophil-mediated resistance to burn wound infection. Presented at MSSRP poster session, UTMB, June 2008. \*won award for best overall basic sciences poster.
- \*Toliver-Kinsky, T., Cui, W., Fang, G., **Bohannon, J.**, Williams, J. Dendritic cell modulation enhances neutrophil-mediated clearance of burn wound infections, Society for Leukocyte Biology, Denver, CO, November 2008. Poster.
- 2010 Stutts, B., **Bohannon, J.**, Cui, W., Toliver-Kinsky, T. Effect of FL on in vitro migration of MPRO neutrophil-like cell line. Presented at SURP poster session, UTMB, August 2010. Poster.
- 2011 Scott, P., **Bohannon, J.**, Cui, W., Toliver-Kinsky, T. (2011) Modification of neutrophil migration molecules by dendritic cell growth factor Flt3-L. Presented at SURP poster session, UTMB, August 2011.
- 2014 \*Hernandez A, Luan L, **Bohannon J**, Sherwood E. The Role of MyD88- and TRIF-dependent Signaling in the Mobilization and Recruitment of Neutrophils by the TLR Agonist Monophosphoryl Lipid A (*Abstract 66*). Joint Meeting of the Society for Leukocyte Biology and the International Endotoxin and Innate Immunity Society. Salt Lake City, UT. October 2014. Poster.
- \*Luan L, Herzig DS, **Bohannon J**, Toliver-Kinsky T, Guo Y, Sherwood E. The role of CXCL10 in the pathogenesis of experimental septic shock (*Abstract 43*). 37<sup>th</sup> Annual Conference on Shock. Charlotte, NC. SHOCK 41: Supplement 2, 2014. June 2014. Poster.
- 2015 A. Hernandez, **J. Bohannon**, B. Fensterheim, L. Luan, N. Patil, E. Sherwood. Role of MyD88- and TRIF-Dependent Signaling in MPLA-Induced Neutrophil Mobilization and Recruitment. TOLL 2015 Meeting: Targeting Innate Immunity. Marbella, Spain. Abstract Book p. 337. Poster.
- B.A. Fensterheim, **J Bohannon**, J.D. Young, E.R. Sherwood. MyD88-Associated Toll-Like Receptor Ligands Prime Macrophage Metabolism for Infection. TOLL 2015 Meeting: Targeting Innate Immunity. Marbella, Spain. Abstract Book p. 125. Poster.
- \*Y. Guo, L. Luan, N.K. Patil, **J. Bohannon**, E. Sherwood. Interleukin (IL)-15 Facilitates the Pathogenesis of CLP-Induced Septic Shock by Activation of NK, NKT and Memory CD8<sup>+</sup> T Lymphocytes (*Abstract 3*). 38<sup>th</sup> Annual Conference on Shock. Denver, CO. SHOCK. 43: Supplement 1, June 2015. Plenary Oral Presentation.

\*A. Hernandez, L. Luan, **J. Bohannon**, B. Fensterheim, E. Sherwood. Molecular Mechanisms of Monophosphoryl Lipid A Induced Neutrophil Mobilization and Recruitment (*Abstract 32*). 38<sup>th</sup> Annual Conference on Shock. Denver, CO. SHOCK. 43: Supplement 1, June 2015. Oral Presentation.

\*N.K. Patil, L. Luan, Y. Guo, **J. Bohannon**, E. Sherwood. Interleukin-15 Treatment Expands Splenic NK and CD8 T Cells But Fails to Improve Survival During Burn Wound Sepsis (*Abstract P17*). 38<sup>th</sup> Annual Conference on Shock. Denver, CO. SHOCK. 43: Supplement 1, June 2015. Poster.

\*N.K. Patil, **J. Bohannon**, L. Luan, Y. Guo, E. Sherwood. Burn Wound Infection Causes Significant Adaptive Immune System Dysfunction (*Abstract P159*). 38<sup>th</sup> Annual Conference on Shock. Denver, CO. SHOCK. 43: Supplement 1, June 2015. Poster.

Hernandez A, **Bohannon JK**, Luan L, Fensterheim B, Sherwood E. Regulation of neutrophil mobilization and recruitment by the TLR4 agonist monophosphoryl lipid A: cellular and molecular mechanisms. 11<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2015. Poster.

Patil N., **Bohannon J**, Luan L, Guo Y, Sherwood E. Burn wound infection causes significant adaptive immune system dysfunction. 11<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2015. Poster.

Patil N., **Bohannon J**, Luan L, Guo Y, Sherwood E. Burn wound infection causes significant adaptive immune system dysfunction. Postdoctoral Research and Shared Resources Symposium 2015. Vanderbilt University. April 2015. Poster.

Hernandez A, Fensterheim B, **Bohannon JK**, Luan L, Sherwood E. Regulation of neutrophil mobilization and recruitment by the TLR4 agonist monophosphoryl lipid A: cellular and molecular mechanisms. Association of University Anesthesiologists Annual Meeting. Nashville, TN. April 2015. Poster.

2016

Luan L, Patil N, Guo Y, Hernandez A, **Bohannon J**, Fensterheim B, Wang J, Lu P, Xu Y, Enkhbaatar P, Sherwood E. Lipopolysaccharide and monophosphoryl lipid A induce similar transcriptome profiles in human blood with the exception of proinflammatory genes. 12<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2016. Poster.

Patil N, **Bohannon J**, Luan L, Guo Y, Sherwood E. Preclinical evaluation of Flt3 ligand to improve T cell adaptive immune response during sepsis. 12<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2016. Poster.

Hernandez A, Luan L, **Bohannon J**, Fensterheim B, Guo Y, Patil N, Wang J, Sherwood E. Role of MyD88- and Trif-dependent signaling in MPLA-induced neutrophil mobilization and recruitment. 12<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. May 2016. Poster.

\*Patil N, **Bohannon J**, Luan L, Guo Y, Sherwood E. Preclinical evaluation of Flt3 ligand to improve T cell adaptive immune response during sepsis. Experimental Biology Annual Meeting 2016. San Diego, CA. May 2016. Poster.

\*Fensterheim B, **Bohannon J**, Guo Y, Sherwood E. MyD88-associated Toll-like receptor ligands prime macrophage metabolism for infection. *J. Immunol* 2016. 196:203.24 (Abstr.)

\*Guo Y, Luan L, Rabacal W, **Bohannon J**, Fensterheim B, Hernandez A, Sherwood E. Interleukin (IL)-15 superagonist mediates immunotoxicity by inducing hyperproliferation of activated NK cells and production of IFN-gamma. *J. Immunol* 2016. 196:142.23 (Abstr.)



\*Guo Y, Luan L, **Bohannon J**, Patil N, Fensterheim B, Hernandez A, Wang J, Sherwood E. The lack of NK and mCD8+ T cells in IL-15KO mice confers resistance to septic shock. *J Immunol* 2016. 196:60.9 (Abstr.)

\*Guo Y, Luan L, Patil NK, **Bohannon JK**, Wang J, Fensterheim BA, Hernandez A, Sherwood E. Interleukin (IL)-15 Plays a Critical Role in the Pathogenesis of CLP- and LPS-induced Septic Shock by Maintaining NK and Memory CD8+ T Cells (*Abstract 8*). 39<sup>th</sup> Annual Conference on Shock. Austin, TX. *SHOCK*. 45: Supplement I, June 2016. Plenary Oral Presentation.

\*Patil NK, **Bohannon JK**, Luan L, Guo Y, Sherwood E. Flt3 Ligand Attenuates Adaptive Immune System Dysfunction During Burn Wound Sepsis (*Abstract 20*). 39<sup>th</sup> Annual Conference on Shock. Austin, TX. *SHOCK*. 45: Supplement I, June 2016. New Investigator Competition Oral Presentation.

\*Fensterheim BA, **Bohannon JK**, Guo Y, Sherwood E. Very Late TLR4-Driven Elevation in Macrophage Oxidative Metabolism Following Early Aerobic Glycolysis Promotes Infection Resolution (*Abstract P49*). 39<sup>th</sup> Annual Conference on Shock. Austin, TX. *SHOCK*. 45: Supplement I, June 2016. Poster.

\*Hernandez A, Luan L, **Bohannon JK**, Fensterheim B, Guo Y, Patil NK, Wang J. The Role of MyD88- and TRIF-Dependent Signaling in the Trafficking of Innate Immune Cells by Monophosphoryl Lipid A (*Abstract P127*). 39<sup>th</sup> Annual Conference on Shock. Austin, TX. *SHOCK*. 45: Supplement I, June 2016. Poster.

2017

\*Mignemi NA, Moore-Lotridge SN, Gibson BHY, Baker CE, Hawley GD, Ihejirika RC, **Bohannon JK**, Oelsner WK, Wallace CS, Luan L, Sherwood ER, Schoenecker JG. Severe Injury Leads to Plasmin Consumption Below a Critical Threshold Required to Heal Soft Tissue Injury. Plastic Surgery Research Council 62<sup>nd</sup> Annual Meeting. Durham, NC. May 2017. Poster.

Luan L, Patil NK, Guo Y, Hernandez A, **Bohannon JK**, Fensterheim BA, Wang J, Xu Y, Enkhbaatar P, Stark R, Sherwood ER. Comparative transcriptome profiles of human blood in response to the toll-like receptor 4 ligands lipopolysaccharide and monophospholipid A. Vanderbilt Symposium on Infection and Immunology. April 13, 2017. Poster.

Guo Y, Luan L, Patil N, Wang J, Hernandez A, Rabacal W, **Bohannon J**, Fensterheim B, Sherwood E. Interleukin (IL)-15 enables septic shock by maintaining natural killer cell integrity and function. Vanderbilt Symposium on Infection and Immunology. April 13, 2017. Poster.

Fensterheim BA, Young JD, Stothers C, Luan L, **Bohannon JK**, Sherwood ER. Late TLR-driven switch from macrophage aerobic glycolysis to energy metabolism facilitates non-specific resistance to infection. Vanderbilt Symposium on Infection and Immunology. April 13, 2017. Poster.

Guo Y, Luan L, Patil N, Wang J, Hernandez A, Rabacal W, **Bohannon J**, Fensterheim B, Sherwood E. Interleukin (IL)-15 enables septic shock by maintaining natural killer cell integrity and function. 13<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. April 2017. Poster.

Stothers C, Fensterheim B, **Bohannon J**, Sherwood E. Beta-glucan training enhances innate immune effector function to improve antimicrobial response to *Pseudomonas aeruginosa* infection in burned mice. 13<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. April 2017. Poster.

Patil N, Luan L, **Bohannon J**, Hernandez A, Guo Y, Sherwood E. Burn wound sepsis induced T cell dysfunction: Anti-PD-L1 antibody improves survival. 13<sup>th</sup> Annual Anesthesiology Research Symposium. Vanderbilt University Medical Center. April 2017. Poster.

\*Guo Y, Luan L, Patil N, Wang J, **Bohannon JK**, Rabacal W, Fensterheim B, Hernandez A, Sherwood E. Interleukin 15 Enables Septic Shock by Maintaining Natural Killer Cell Integrity and Function. (Abstract 6). 40<sup>th</sup> Annual Conference on Shock. Ft. Lauderdale, FL. SHOCK 47: Supplement 1, 2017. June 2017. Plenary Oral Presentation: *Best of Best*.

\*Patil NK, Luan L, **Bohannon JK**, Hernandez A, Guo Y, Sherwood ER. Burn Wound Sepsis Induced T Cell Dysfunction: Anti-PD-L1 Antibody Improves Survival. (Abstract P89). 40<sup>th</sup> Annual Conference on Shock. Ft. Lauderdale, FL. SHOCK 47: Supplement 1, 2017. June 2017. Poster.

\*Stothers C, **Bohannon J**, Luan L, Sherwood E. Beta-Glucan Training Enhances Innate Immune Effector Function to Improve Antimicrobial Responses to *Pseudomonas aeruginosa* Infection in Burned Mice. (Abstract P139). 40<sup>th</sup> Annual Conference on Shock. Ft. Lauderdale, FL. SHOCK 47: Supplement 1, 2017. June 2017. Poster.

\*Luan L, Patil N, Guo Y, Hernandez A, **Bohannon J**, Fensterheim B, Wang J, Xu Y, Enkhbaatar P, Stark R, Sherwood E. Comparative Transcriptome Profiles of Human Blood in Response to the Toll-like Receptor 4 Ligands Lipopolysaccharide and Monophosphoryl Lipid A. (Abstract P208). 40<sup>th</sup> Annual Conference on Shock. Ft. Lauderdale, FL. SHOCK 47: Supplement 1, 2017. June 2017. Poster.

\*Hernandez A, **Bohannon JK**, Luan L, Fensterheim BA, Fults JB, Patil NK, Parker R, Guo Y, Wang J, Sherwood ER. Enhancement of Innate Anti-Microbial Immunity Using Novel Synthetic TLR4 Agonists. (Abstract P220). 40<sup>th</sup> Annual Conference on Shock. Ft. Lauderdale, FL. SHOCK 47: Supplement 1, 2017. June 2017. Poster.

\*Parker R, **Bohannon JK**, Fensterheim B, Patil N, Luan L, Guo Y, Stothers C, Hernandez A, Sherwood ER. Characterization of Lymphocyte Metabolism in a Murine Sepsis Model. (Abstract P251). 40<sup>th</sup> Annual Conference on Shock. Ft. Lauderdale, FL. SHOCK 47: Supplement 1, 2017. June 2017. Poster.

Fensterheim BA, Young JD, **Bohannon JK**, Sherwood ER. Monophosphoryl lipid A drives persistent broad resistance to infection via dynamic TLR4-mediated metabolic reprogramming. Southeastern Immunology Symposium. Vanderbilt University, Nashville, TN. June 2017. Poster.

Stothers CL, **Bohannon J**, Fensterheim B, Sherwood E. Beta-glucan training enhances antimicrobial responses to *Pseudomonas aeruginosa* infection. Southeastern Immunology Symposium. Vanderbilt University, Nashville, TN. June 2017. Poster.

\*Stothers CL, Fensterheim BA, **Bohannon JK**, Sherwood ER. Dissecting mechanisms of beta-glucan trained immunity (Abstract 20). 2017 Society of Leukocyte Biology 50<sup>th</sup> Anniversary Meeting. Vancouver, BC Canada. October 2017. Oral Presentation.

\*Sherwood E, Young J, Trenary I, **Bohannon J**, Fensterheim B. Modification of macrophage metabolism and memory by TLR4 agonists (Abstract 29). 2017 Society of Leukocyte Biology 50<sup>th</sup> Anniversary Meeting. Vancouver, BC Canada. October 2017. Oral Presentation.

\*Hernandez A, **Bohannon JK**, Fensterheim BA, Fults JB, Patil NK, Parker R, Guo Y, Wang J, Sherwood ER. Anti-microbial resistance via enhancement of innate immunity using novel synthetic TLR4 agonists (Abstract 82). 2017 Society of Leukocyte Biology 50<sup>th</sup> Anniversary Meeting. Vancouver, BC Canada. October 2017. Poster.

2018

\*Patil N, Luan L, **Bohannon JK**, Hernandez A, Guo Y, Sherwood ER. Anti-PD-L1 attenuates T cell dysfunction and protects against infection with common nosocomial pathogens after severe burn injury (Abstract 10). 41<sup>st</sup> Annual Conference on Shock. Scottsdale, AZ. SHOCK 49: Supplement 1, June 2018. Oral Presentation.

\*Hernandez A, **Bohannon JK**, Luan L, Fults JB, Fensterheim BA, Stothers CL, Guo Y, Patil NK, Wang J, Sherwood ER. Synthetic phosphorylated hexaacyl disaccharides are potent TLR4 agonists and augment host resistance against common nosocomial pathogens (Abstract 48). 41<sup>st</sup> Annual Conference on Shock. Scottsdale, AZ. SHOCK. 49: Supplement 1, June 2018. Oral Presentation.

\*Stothers CL, Guo Y, Travisano K, Luan L, **Bohannon JK**, Montano M, William DL, Sherwood ER. Endothelial mTOR signaling drives vascular inflammation (Abstract P99). 41<sup>st</sup> Annual Conference on Shock. Scottsdale, AZ. SHOCK. 49: Supplement 1, June 2018. Poster.

\*Stothers CL, Luan L, **Bohannon JK**, Hernandez A, Fensterheim BA, Williams DL, Sherwood ER. Dectin-1 and toll-like receptor-2 are not essential for beta-glucan-induced protection from *Pseudomonas aeruginosa* infection (Abstract P196). 41<sup>st</sup> Annual Conference on Shock. Scottsdale, AZ. SHOCK. 49: Supplement 1, June 2018. Poster.

Hernandez A, **Bohannon JK**, Luan L, Fensterheim B, Fults J, Patil N, Sherwood ER. Novel synthetic toll-like receptor 4 agonists enhance resistance to infection with common bacterial pathogens (Abstract MHSRS-18-1471). Military Health System Research Symposium (MHSRS) 2018. Kissimmee, FL. August 2018. Poster.

Sherwood ER, **Bohannon JK**, Hernandez A, Fukuda S, Randolph A, Michael S, Ihara K, Cox RA, Hawkins HK, Herndon D, Prough D, Enkhbaatar E. The toll-like receptor-4 agonist monophosphoryl lipid A protects sheep from lung injury and sepsis in a model of cutaneous burn and pneumonia (Abstract MHSRS-18-1160). Military Health System Research Symposium (MHSRS) 2018. Kissimmee, FL. August 2018. Poster.

2019

\*Patil NK, Luan L, **Bohannon JK**, Hernandez A, Fensterheim B, Sherwood ER. Immunosuppressive gene 1 and itaconate: key mediators of TLR4 agonist-induced protection against infection (Abstract 78). 42<sup>nd</sup> Annual Conference on Shock. Coronado, CA. SHOCK. 51: Supplement 1, June 2019. Oral Presentation.

\*Patil NK, Fensterheim B, Luan L, **Bohannon JK**, Hernandez A, Sherwood ER. Mitochondrial biogenesis plays an important role in monophosphoryl lipid A-mediated reprogramming of macrophage metabolism and function (Abstract P31). 42<sup>nd</sup> Annual Conference on Shock. Coronado, CA. SHOCK. 51: Supplement 1, June 2019. Poster.

\*Stothers CL, Luan L, **Bohannon JK**, Burelbach K, Kinnare N, Williams DL, Sherwood ER. Beta-glucan protects mice from lethal *Pseudomonas aeruginosa* infection: insights into the signaling mechanisms supporting trained immunity (Abstract P98). 42<sup>nd</sup> Annual Conference on Shock. Coronado, CA. SHOCK. 51: Supplement 1, June 2019. Poster.

Patil NK, Luan L, **Bohannon JK**, Stothers CL, Hernandez A, Fensterheim BA, Sherwood ER. Toll-like receptor 4 agonist-induced mitochondrial biogenesis, Irg1 expression and itaconate production protect against infection with common nosocomial pathogens. 4<sup>th</sup> International Conference on Innate Immune Memory. Nijmegen, Netherlands. October 2019. Poster.

Stothers C, Luan L, **Bohannon J**, Burelbach K, Patil N, Hernandez A, Williams D, Sherwood E. Beta-glucan protects mice from *Pseudomonas aeruginosa* infection: insights into the signaling mechanisms underlying innate immune memory. 4<sup>th</sup> International Conference on Innate Immune Memory. Nijmegen, Netherlands. October 2019. Poster.

2020

\*Hernandez, A, Scarfe, LN, Delgado, RD, Patil, NK, Himmel L, **Bohannon JK**, Sherwood ER, de Caestecker MP. Preclinical evaluation of a novel synthetic toll-like receptor 4 agonist to enhance resistance to ischemia-reperfusion-induced acute kidney injury (Abstract P160). 43<sup>rd</sup> Annual Conference on Shock. Toronto, BC, CA. SHOCK. 53: Supplement 1S. June 2020. Poster. Meeting cancelled due to COVID-19.

\*Burelbach KR, Stothers C, Luan L, **Bohannon JK**, Williams DL, Sherwood, ER. Beta-Glucan augments macrophage antimicrobial activity and metabolism (Abstract P215). 43<sup>rd</sup> Annual Conference on Shock. Toronto, BC, CA. SHOCK. 53: Supplement 1S. June 2020. Poster. Meeting cancelled due to COVID-19.

\*Luan L, Patil NK, Hernandez A, Stothers C, Owen AM, Burelbach KR, Patil T, Wang J, **Bohannon JK**, Sherwood ER, Role of interleukin-1 receptor-associated kinase M in murine models of LPS induced inflammation and bacterial infection (Abstract P217). 43<sup>rd</sup> Annual Conference on Shock. Toronto, BC, CA. SHOCK. 53: Supplement 1S. June 2020. Poster. Meeting cancelled due to COVID-19.

\*Stothers C, Burelbach KR, Luan L, **Bohannon JK**, Patil NK, Hernandez A, Williams DL, Sherwood ER. Assessing the function of dectin-1 and toll-like receptor 2 in beta-glucan-mediated protection against Pseudomonas aeruginosa infection (Abstract P223). 43<sup>rd</sup> Annual Conference on Shock. Toronto, BC, CA. SHOCK. 53: Supplement 1S. June 2020. Poster. Meeting cancelled due to COVID-19.

\*McBride MA, Luan L, **Bohannon JK**, Stothers C, Hernandez A, Burelbach KR, Wang J, Sherwood ER, Patil NK. MPLA augments protection from infection by inducing mitochondrial biogenesis and itaconate production (Abstract P60). 43<sup>rd</sup> Annual Conference on Shock. Toronto, BC, CA. SHOCK. 53: Supplement 1S. June 2020. Poster. Meeting cancelled due to COVID-19.

2021

Hernandez A, Scarfe L, Delgado R, Patil NK, Himmel LE, **Bohannon JK**, Sherwood ER, de Caestecker M. Trained immunity with synthetic toll-like receptor 4 agonist protects against acute kidney injury in a model of ischemia-reperfusion injury. The Association of University Anesthesiologists (AUA) virtual conference, May 2021.

Hernandez A, Scarfe L, Delgado R, Patil NK, Himmel LE, **Bohannon JK**, Sherwood ER, de Caestecker M. Trained immunity with synthetic toll-like receptor 4 agonist protects against acute kidney injury in a model of ischemia-reperfusion injury. The Society of Critical Care Anesthesiologists virtual conference, May 2021.

\*Burelbach KR, Stothers CL, Owen AM, Patil NK, McBride MA, **Bohannon JK**, Luan L, Hernandez A, Patil TK, Williams DL, Sherwood ER. Beta-glucan induces lasting protection from infection by macrophage training. The 44<sup>th</sup> Annual Conference on Shock. Virtual Conference, October 2021. Oral Presentation.

\*Hernandez A, Lopex LK, Patil NK, Delgado RD, **Bohannon JK**, Menshikh A, Himmel L, Owen AM, Sherwood ER, de Caestecker MP. The role of toll-like receptor 4 agonist-induced trained immunity to protect against acute kidney injury. The 44<sup>th</sup> Annual Conference on Shock. Virtual Conference, October 2021. Oral Presentation.

\*McBride MA, Patil TK, Burelbach KR, Luan L, **Bohannon JK**, Hernandez A, Owen AM, Sherwood ER, Patil NK. IRG1 and itaconate in innate immune memory. The 44<sup>th</sup> Annual Conference on Shock. Virtual Conference, October 2021. Poster.

\*Hernandez A, Zhou J, **Bohannon JK**, Patil NK, Owen AM, Patil TK, McBride MA, Burelbach KR, Sherwood ER. Induction of trained immunity in the lung enhances resistance to Klebsiella Pneumoniae. The 44<sup>th</sup> Annual Conference on Shock. Virtual Conference, October 2021. Poster.

2022

McBride MA, Patil TK, Burelbach KR, Owen AM, Luan L, **Bohannon JK**, Stothers C, Hernandez A, Sherwood ER, Patil NK. Irg1 and Itaconate in Innate Immune Memory. Keystone Symposia Innate Immune Memory: From Evolutionary Roots to Human Disease. Banff, Alberta, Canada. March 2022. **Selected Scholarship Awardee.**

\*Chou SR, LaRock DL, Sun J, Nizet V, **Bohannon JK**, LaRock CN. Evaluation of Small Molecule Inhibitors of Pseudomonas Virulence factor LasB and Non-Traditional

Immunotherapeutics. FASEB. 36. 2022. Experimental Biology 2022. Philadelphia, PA. Poster.

\*Burelbach KR, Stothers C, **Bohannon JK**, McBride MA, Hernandez A, Owen AM, Patil N, Boykin O, Williams D, Sherwood E. Investigating Mechanisms of Neutrophil Recruitment in Trained Immunity. The 45<sup>th</sup> Annual Conference on Shock. P-315; June 2022. Poster.

\*McBride MA, Patil T, Burelbach KR, Owen AM, Luan L, **Bohannon J**, Stothers C, Hernandez, Sherwood E, Patil N. IRG1 and Itaconate in Innate Immune Memory. The 45<sup>th</sup> Annual Conference on Shock. P-213; June 2022. Poster.

## Teaching / Academic Activities

- 2009 BBSC 6119, UTMB – Smoking Caused Disease – Distribution, Impact, and Mechanisms - One 90-minute lecture on Immunotoxicology
- Bromberg Workshop for Teaching and Mentoring, certification of completion.
- PMCH 6155, UTMB - Teaching in Toxicology – Two one-hour fifteen-minute lectures on Immunotoxicology to TAMUG MARB 414 upper-level undergraduate students.
- CTPS 6301, UTMB - College Teaching and Learning course
- 2010 PMCH 6155, UTMB - Teaching in Toxicology – Two one hour and fifteen-minute lectures on Immunotoxicology to TAMUG MARB 414 upper-level undergraduate students.
- 2011 Postdoctoral certificate course CTPS6202 – Teaching Practicum Laboratory. Acted as a co-facilitator for two hours per day for two days each week in a lab course for medical students at UTMB, plus faculty planning sessions, for 8 consecutive weeks
- 2018 Lecturer – IGP Bioregulation, Vanderbilt University, Interdisciplinary Graduate Program in Biological and Biomedical Sciences – Innate Immunology Lecture, September 2018.
- 2020 Mentor – Foundation for Anesthesia Education and Research (FAER) Virtual Medical Student Anesthesia Research Fellowship (MSARF) Summer Program: Small group mentor for 8 weeks, Journal Club Mentor/Facilitator/Lecturer. Summer 2020.

## Research Mentoring

### During Graduate Training:

- 2006 Alexandria Garza, Summer Undergraduate Research Program, UTMB.
- 2007 Christen Graham, Summer Undergraduate Research Program, School of Medicine, UTMB.
- Josh Garcia, High School Summer Research Program, School of Medicine, UTMB.
- 2008 Jessica Williams, Medical Student Summer Research Program, School of Medicine, UTMB.
- Xingyi Wen, High School Summer Research Program, School of Medicine, UTMB.
- Akira Saito, College Intern from Rice University.
- 2010 Brittany Stutts, Summer Undergraduate Research Program, School of Medicine, UTMB.
- 2010 Lynn Sherwood, Bench Tutorials; Scientific Research and Design Program, NIEHS Center in Environmental Toxicology and the Sealy Center for Environmental Health and Medicine – Mentorship of Ball High School student for 2010-2011 school year.

2011 Passion Scott, Summer Undergraduate Research Program, School of Medicine, UTMB.

**During Postdoctoral Training:**

2012 Yin Guo, full-time graduate student, Department of Pathology, Microbiology and Immunology, Vanderbilt University, laboratory of Edward Sherwood. (Co-Mentor Period: 2012-2017)

2013 Antonio Hernandez, MD., Clinical Researcher, Department of Anesthesiology, Vanderbilt University, laboratory of Edward Sherwood. (Co-Mentor Period: 2013-2021)

Benjamin Fensterheim, MSTP student, Department of Pathology, Microbiology and Immunology, Vanderbilt University, laboratory of Edward Sherwood. (Co-Mentor Period: 2013-2017)

Liming Luan, Ph.D., staff scientist, Department of Anesthesiology, Vanderbilt University. (Personnel Training)

Jingbin Wang, B.S., lab technician, Department of Anesthesiology, Vanderbilt University. (Personnel Training).

2014 Naeem Patil, Ph.D. Postdoctoral Fellow. Department of Anesthesiology, Vanderbilt University. (Co-Mentor Period: 2014-2022)

**As Faculty Adviser:**

***Co-Mentees:***

2015 – Present Antonio Hernandez, MD., Clinical Researcher, Department of Anesthesiology, Vanderbilt University, laboratory of Edward Sherwood. (Co-Mentor Period: 2013-2021).

2015 – 2018 Benjamin Fensterheim, MD, PhD, MSTP student, Department of Pathology, Microbiology and Immunology, Vanderbilt University, laboratory of Edward Sherwood. (Co-Mentor Period: 2013-2017)

2016 – 2021 Cody Stothers, MD, PhD, MSTP student, Vanderbilt University, Department of Pathology, Microbiology, and Immunology, Vanderbilt University, laboratory of Edward Sherwood. (Co-Mentor Period: 2016-2021).

2019 – Present Katherine Burelbach, Research Assistant, Department of Anesthesiology, Vanderbilt University Medical Center, laboratory of Edward Sherwood. Co-Mentor/Personnel Training (2019 – Present).

Tazeen Patil, Research Assistant, Department of Anesthesiology, Vanderbilt University Medical Center, laboratory of Naeem Patil. Co-Mentor/Personnel Training (2019 – 2021).

Margaret McBride, MSTP student, Department of Pathology, Microbiology, and Immunology, Vanderbilt University, laboratory of Edward Sherwood. Co-Mentor (2019 – Present).

***Primary Mentees:***

**Postdoctoral Trainees:**

2019 – 2022 Allison Owen, Ph.D., Postdoctoral Fellow. Primary Mentor. Immunological Mechanisms of Disease Training Program Trainee (T32) 2020. **Current Position: Assistant Professor**, University of Kentucky Athletic Training and Nutrition Center for Muscle Biology.

2023 – **Present** Xenia Davis, PhD. Postdoctoral Fellow.

### Doctoral Student Trainees:

2021 – **Present** Mary Oliver, B.S. IGP Student, Molecular Pathology and Immunology Program.

### Medical Student Trainees:

2016 – 2017 Jessica (Fulfs) Schaedel, Research Assistant Level 2, Department of Anesthesiology, Vanderbilt Medical Center. Primary Mentor/Personnel Training (2016-2017). **Current Position: Resident Physician of Anesthesiology**, University of Alabama-Birmingham.

### Undergraduate Student Trainees:

2021 – 2022 Olivia Boykin, Vanderbilt Undergraduate Student. Vanderbilt University Undergraduate Research Experience. Scientific Immersion and Mentorship Program. Primary Mentor. (2021 – 2022).

Sydney Wolfe, Vanderbilt Undergraduate Student. Vanderbilt University Undergraduate Research Experience. Scientific Immersion and Mentorship Program. Primary Mentor. (2021 – 2022).

2022 – **Present** Olivia Boykin, Vanderbilt Undergraduate Student. SyBBURE Searle Program Scholar. (2022 – Present).

### **Rotation Students:**

2023 Alyssa Ehni, IGP Graduate Student, Vanderbilt University. 4 week research rotation (January 2023).

Mary Oliver, IGP Graduate Student, Vanderbilt University. 4 week research rotation (February 2023).

Madeline Bresson, IGP Graduate Student, Vanderbilt University. 4 week research rotation (February 2023).

Sarah Comer, IGP Graduate Student, Vanderbilt University. 4 week research rotation (March 2023).

### **Summer Interns:**

2015 Lynn Sherwood, Vanderbilt Summer Undergraduate Research Program, 6 weeks. Primary Mentor.

Chase McAdams, Vanderbilt Research Experience for High School Students Program, 8 weeks. Primary Mentor.

2017 Emma Dougherty, Vanderbilt Research Experience for High School Students Program, 10 weeks. Primary Mentor.

2018 Jessica (Fulfs) Schaedel, Medical Student, Foundation for Anesthesia Education and Research (FAER) Medical Student Anesthesia Research Fellowship (MSARF) Summer Internship, 8 weeks. Primary Mentor.

2020 Rachel Hanke, Medical Student. Foundation for Anesthesia Education and Research (FAER) Virtual Medical Student Anesthesia Research Fellowship (MSARF) Summer Program, 8 weeks. Primary Mentor.

Noah Hyduke, Medical Student. Foundation for Anesthesia Education and Research (FAER) Virtual Medical Student Anesthesia Research Fellowship (MSARF) Summer Program, 8 weeks. Primary Mentor.

Sribava Sharma, Medical Student. Foundation for Anesthesia Education and Research (FAER) Virtual Medical Student Anesthesia Research Fellowship (MSARF) Summer Program, 8 weeks. Primary Mentor.

Jessica (Fulst) Schaedel, Medical Student. Foundation for Anesthesia Education and Research (FAER) Virtual Medical Student Anesthesia Research Fellowship (MSARF) Summer Internship, 8 weeks. Primary Mentor.

2021 Olivia Boykin, Undergraduate Student. NIH/NIGMS R01 R01 GM121711 Supplement for Undergraduate Summer Research, 10 weeks. Primary Mentor.

Kalkena Sivanesam, Medical Student. Foundation for Anesthesia Education and Research (FAER) Virtual Medical Student Anesthesia Research Fellowship (MSARF) Summer Internship, 8 weeks. Primary Mentor.

Sophia Hwang, Undergraduate Student. Vanderbilt University Undergraduate Research Experience. Scientific Immersion and Mentorship Program. Summer Internship at Emory University with Christopher LaRock, 8 weeks. Co-Mentor.

2022 Haven Jacob, Recent 2022 Graduate from Eastern Kentucky University. Vanderbilt Department of Anesthesiology Summer Internship Program. 8 weeks. Primary Mentor.

Olivia Boykin, Undergraduate Student. NIH/NIGMS R01 R01 GM121711 Supplement for Undergraduate Summer Research, 10 weeks. Primary Mentor.

### **Mentorship Committees:**

#### ***Graduate Thesis Committees:***

2021 – **Present** Eden Faneuff, graduate student, Vanderbilt University Department of Pathology, Microbiology, and Immunology, laboratory of Dr. Henrique Serezani. Doctoral Thesis Advisory Committee (2021 – Present).

2021 – **Present** Sharareh Ameli, graduate student, Vanderbilt University Department of Pathology, Microbiology, and Immunology, laboratory of Dr. Kevin Osteen (Department of Obstetrics and Gynecology). Doctoral Thesis Advisory Committee (2021 – Present).

#### ***Postdoctoral Advisory Committees:***

2019 – **Present** Jamie Meegan, Ph.D., Postdoctoral Fellow, Vanderbilt University Medical Center, Division of Allergy, Pulmonary, and Critical Care Medicine, laboratory of Dr. Julie Bastarache. Postdoctoral Advisory Committee. (2019 – Present).

2022 – **Present** Cedrick Shili, Postdoctoral Fellow, Vanderbilt University Medical Center, Department of Pathology, Microbiology, and Immunology, laboratory of Henrique Serezani. Postdoctoral Advisory Committee. (2022 – Present).

### **Significant Activities (Service)**

#### **Institutional – VUMC:**

2014            NRSA F32 Informational Panelist, Vanderbilt Postdoctoral Association and Office of Postdoctoral Affairs.

2014 – Present Vanderbilt Program in Research Administration Development (VPRAD) annual lab tours



- 2016 – Present Organizer of Anesthesiology Research Division Works in Progress Seminar Series.
- 2019 – Present Edge for Scholars Grant Reviewer. Vanderbilt University, Clinical and Translational Career Development.
- 2019 Anesthesiology Research Symposium, Judge
- 2020 – Present Faculty reviewer for the Vanderbilt Undergraduate Summer Research Program applications.
- 2020 Volunteer for COVID response effort, VUMC Molecular Infectious Disease Laboratory (48 hours cumulative volunteer hours).
- 2021 Anesthesiology Research Symposium, Judge
- 2021 VUMC Translational Research Forum, Judge

**External:**

- 2017 – 2020 Society of Leukocyte Biology Communications **Committee Member**.
- 2019 52<sup>nd</sup> Annual Meeting of the Society for Leukocyte Biology Women and Diversity Workshop **Panelist Speaker** – Advocating for Your Goals: The Art of Saying No, So You Can Say Yes. Boston, MA.
- 2019 – Present *SHOCK* Journal **Editorial Board Member**.
- 2020 Swiss National Science Foundation **Peer Reviewer** – 2 grants.
- 2020 – Present *Pathogens* Journal Editorial Board Member: **Topic Editor**.
- 2020 – Present *Frontiers in Immunology* Journal Topic Associate Co-Editor – Roles of Mitochondria in Immunity.
- 2021 **Session chair** for Satellite Special Interest session on Trained Innate Immunity for Society of Leukocyte Biology Virtual Symposium. April 29, 2021.
- 2021 – Present Society of Leukocyte Biology Membership **Committee Member**.
- 2021 – 2022 *SHOCK* Society Publications **Committee Member**.
- 2021 **Invited Trial Participant** in the MAVEN Institute (NIH/NIGMS R25GM139082), a national, randomized-controlled, educational trial and mentorship program that supports and advances the careers of women in science, research, and healthcare.
- 2022 – Present *SHOCK* Society Publications **Committee Chair**.
- 2023 – Present Revelation Biosciences, consultant.

**Study Sections (Peer Review)**

- 2022 NIH Surgery, Anesthesiology and Trauma (SAT) Study Section ad hoc **Peer Reviewer**, June 2022 session.
- 2023 Military Infectious Diseases Research Program (MIDRP), **Scientist Reviewer**, March 2023 session.
- 2023 NIH MRAD Maximizing Investigators’ Research Award (MIRA/R35) Study Section ad hoc **Peer Reviewer**, June 2023 session.

**Training Grants**

- 2020 – **Present** Vanderbilt Medical Center NIH/NIGMS T32 Interdisciplinary Training in Injury and Critical Illness, Faculty Mentor.
- 2022 – **Present** University of Texas Medical Branch NIH/NIGMS T32 Postdoctoral Training In Trauma and Burns, Advisory Panel.
- 2022 – **Present** Immunological Mechanisms of Disease Training Program NIH/NIAID T32, Faculty Mentor.
- 2023 – **Present** Vanderbilt University Medical Center Department of Anesthesiology Clinician Scientist Training in Perioperative Science Fellowship NIH/NIGMS T32, Faculty Mentor.

**Advisory Panels**

- 2023 – **Present** Revelation Biosciences, Scientific Advisory Board

## Ad hoc Reviewer

ACS Infectious Diseases  
American Journal of Physiology  
Burns  
Clinical and Translational Medicine  
Cytokine  
Frontiers in Cardiovascular Medicine  
Frontiers in Immunology  
Immunology  
Journal of Immunology  
Journal of Leukocyte Biology  
Journal of Molecular Medicine  
Molecular Medicine Reports  
Pathogens (**Editorial Board Member 2020 – Present**)  
PeerJ  
PlosONE  
SHOCK (**Editorial Board Member 2019 – Present**)  
Science Advances

## Patents

2022 Sherwood E, Hernandez A, **Bohannon J.** PHOSPHORYLATED HEXAACYL-DISACCHARIDES (PHADS) FOR PREVENTING BACTERIAL INFECTIONS. US Patent 62/492,451. Publication Date: **2022/7/19.**

## Other Activities

### Meeting Attendance:

2006 The Society for Leukocyte Biology Annual Meeting, San Antonio, TX.  
2007 The 30<sup>th</sup> Annual Conference on Shock, Baltimore, MD.  
2008 The Society for Leukocyte Biology Annual Conference; Denver, CO.  
2010 The 33<sup>rd</sup> Annual Conference on Shock, Portland, OR.  
2013 The 36<sup>th</sup> Annual Conference on Shock, San Diego, CA.  
2014 The 37<sup>th</sup> Annual Conference on Shock, Charlotte, NC.  
2014 The Society for Leukocyte Biology & International Endotoxin and Innate Immunity Society Annual Meeting, Salt Lake City, UT  
2015 The 38<sup>th</sup> Annual Conference on Shock, Denver, CO.  
2015 TOLL 2015: Targeting Innate Immunity, Marbella, Spain.  
2016 American Association of Immunologists Annual Meeting: IMMUNOLOGY 2016, Seattle, WA.  
2016 The 39<sup>th</sup> Annual Conference on Shock, Austin, TX.  
2017 The Innate Immune Memory Conference 2017, Cambridge, UK.  
2017 The 40<sup>th</sup> Annual Conference on Shock, Ft. Lauderdale, FL.  
2017 The Southeastern Immunology Symposium, Vanderbilt University, Nashville, TN.  
2017 The Society of Leukocyte Biology 50<sup>th</sup> Anniversary Meeting, Vancouver, BC Canada.  
2018 The 41<sup>st</sup> Annual Conference on Shock, Scottsdale, AZ.  
2018 The Military Health Systems Research Symposium (MHSRS) 2018, Kissimmee, FL.  
2018 The Anesthesiology Annual Meeting (ASA), October 2018, San Francisco, CA.  
2018 The Society of Leukocyte Biology & International Endotoxin and Innate Immunity Society Joint Meeting, Chandler, AZ.  
2019 The 42<sup>nd</sup> Annual Conference on Shock, Coronado, CA.  
2019 The Military Health Systems Research Symposium (MHSRS) 2019, Kissimmee, FL.  
2019 4<sup>th</sup> International Conference on Innate Immune Memory. Nijmegen, Netherlands.  
2019 52<sup>nd</sup> Annual Meeting of the Society for Leukocyte Biology. Boston, MA.

2019 Deerfield Institute's Women in Science Translational Research Symposium. New York, NY.  
2020 Society of Leukocyte Biology 2020 Virtual Conference (SLB2020).  
2021 American Burn Association 53<sup>rd</sup> Annual Virtual 2021 Meeting.  
2021 Society of Leukocyte Biology 2021 Virtual Conference (SLB2021).  
2021 The 44<sup>th</sup> Annual Conference on Shock Goes Virtual.  
2022 Keystone Symposia Innate Immune Memory: From Evolutionary Roots to Human Disease.  
Banff, Alberta, Canada.  
2022 The 45<sup>th</sup> Annual Conference on Shock, Toronto, Ontario, Canada.  
2022 The 55<sup>th</sup> Annual Meeting of the Society for Leukocyte Biology, October 26-29, Waikoloa, HA.