

Curriculum Vitae

Jun Lei, MD, PhD

Date Feb 28, 2023

Education

1990 - 1995 MD, Traditional Chinese Medicine, Hubei University of Traditional Chinese Medicine
1999 - 2002 MS, Tongji Medical College of Huazhong University of Science
2002 - 2006 PhD, Basic Discipline of Chinese and Western Integrative Medicine (Neuroscience),
Tongji Medical College of Huazhong University of Science

Post Graduate Education and Training

2007 - 2011 Postdoctoral Fellowship, Department of Neurosciences, University of Toledo
2011 - 2013 Postdoctoral Fellowship, Department of Biochemistry & Cancer Biology, University of Toledo
2013 - 2017 Postdoctoral Fellowship, Department of Gynecology & Obstetrics, Integrated Research Center for Fetal Medicine, Johns Hopkins University

Employment History

1995-1999 Physician, Wuhan No.4 Hospital, China

Academic Appointments

2017-2022 Research Associate (faculty), Department of Gynecology & Obstetrics, Integrated Research Center for Fetal Medicine, Johns Hopkins University, School of Medicine

Professional Society Membership

2013-Present Member of Society for Reproductive Investigation (SRI)
2014-Present Member of The American Society for Reproductive Immunology (ASRI)

Honors and Awards

2014 NIH Young Investigator Award, Perinatal Research Society
2016 Winner of Scientific Image Competition, American Society for Reproductive Immunology
2017 Dr. John Gusdon Memorial New Investigator Award for Basic Science, American Society for Reproductive Immunology
2018 Travel Award, American Society for Reproductive Immunology
2018 Travel Award, Society for Reproductive Investigation
2023 President's Presenter's Award, Society for Reproductive Investigation
2023 Gusdon Travel Award, American Society for Reproductive Immunology

Local and National Service

2016 ASRI Session Moderator, Clinical Tools and New Methodology

2017 ASRI Poster Judge
2019-present ASRI Co-chair, Publication Committee
2019-Present ASRI Co-chair, Publication Committee
Session Moderator, Clinical Tools and New Methodology
Poster Judge
Oral Presentation Judge
Oral Presentation Judge
Session Chair
2021-Present ASRI Nomination Committee
2022 Session Moderator and Poster Judge, Society for Reproductive Investigation
2022-Present Topic editor for *Frontiers in Pharmacology* 2022-Present

Teaching Service

2018-2020 Quan Na, MD, PhD, post-doc fellow, laboratory techniques, experimental design, peer-reviewed co-mentor.
2018-2019 Anna Chudnovets, MD, post-doc fellow, laboratory techniques, experimental design, peer-reviewed publications, co-mentor.
2019-Present Jin Liu, MD, post-doc fellow, laboratory techniques, experimental design, peer-reviewed publications, co-mentor
2019-Present Yang Liu, MD, post-doc fellow, laboratory techniques, experimental design, peer-reviewed publications, co-mentor

Resident and Fellow Teaching

Mentoring Post-doctoral Advisees /Mentees

2015-2018 Solange Elondou, MD, MFM fellow
2016-2017 Yahya Shabi, MD, post-doc fellow
2016-2017 Lu Zhong, MD; post-doc fellow
2017-2018 Bei Jia, MD, post-doc fellow
2017-2019 Jeon Lee, MD, PhD
2018-2019 Su Li, MD, PhD, post-doc fellow
2018-2019 Jie Dong, MD, PhD, post-doc fellow

Grant Support

Active Grants:

10/01/18-09/30/23 (Co-Inv, 10%; PI - Burd/Klein)
IL-1 β regulation of Zika-mediated adverse perinatal outcomes
1R01HD097608-01, NICHD
Total Annual Costs: \$609,548

04/13/2021 - 03/31/2026 (Co-Inv, 10%; PI - Burd/Ensign)
“Nanomedicine approaches for prevention of inflammation-induced preterm birth”
1R01HD1031240-01A1 NICHD
\$629,685 (total per year)

Publications

1. Li Z, **Lei J**, Chen Z. Effect of PNS on nNOS Content in Spinal Neuron of Rats after Spinal Cord Injury. *Practical Clinical Medicine*. 2001; 15(1):1-3.

2. Li Z, **Lei J**, Chen Z. Effects of PNS on HSP70 expression in spinal neuron after spinal cord injury. *Chinese Journal of Traditional Medical Traumatology & Orthopedics*. 2001; 9(3):20-22.
3. Li Z, **Lei J**, Chen Z, Yuan S. C-fos expression in spinal neurons in early period of spinal cord injury and effect of PNS. *Chinese Journal of Surgery of Integrated Traditional and Western Medicine*. 2002; 8(2):104-106.
4. Yi C, **Lei J**, Ru L, Meng X. Experimental Study on the Excitatory Glutamate Receptors and Visceral Nociception Afferent. *Acta Medicinæ Universitatis Scientiæ et Technologiæ Huazhong*. 2004; 33(6):663-668.
5. **Lei J**, Li Q, Li G, Ru L. Regulatory Effects of electroacupuncture of "Zusanli"(ST 36) on gastrointestinal motility disorder in rats and its related neurochemical mechanism. *Acupuncture Research*. 2005 March; 30(3):131-137.
6. **Lei J**, Dai JP, Ru LQ, Yin GF, Van Eden CG, Buijs RM. The comparisons on total RNA from different source-original neurons applied in LMPC. *Neurosci Bull*. 2006 Mar;22(2):91-6. PubMed PMID: 17687404.
7. Cailotto C, **Lei J**, van der Vliet J, van Heijningen C, van Eden CG, Kalsbeek A, Pévet P, Buijs RM. Effects of nocturnal light on (clock) gene expression in peripheral organs: a role for the autonomic innervation of the liver. *PLoS One*. 2009 May 21;4(5):e5650. doi: 10.1371/journal.pone.0005650. PubMed PMID: 19478857; PubMed Central PMCID: PMC2682563.
8. **Lei J**, Howard MJ. Targeted deletion of Hand2 in enteric neural precursor cells affects its functions in neurogenesis, neurotransmitter specification and gangliogenesis, causing functional aganglionosis. *Development*. 2011 Nov;138(21):4789-800. doi: 10.1242/dev.060053. PubMed PMID: 21989918; PubMed Central PMCID: PMC3190387.
9. Kalsbeek A, van der Spek R, **Lei J**, Endert E, Buijs RM, Fliers E. Circadian rhythms in the hypothalamo-pituitary-adrenal (HPA) axis. *Mol Cell Endocrinol*. 2012 Feb 5;349(1):20-9. doi: 10.1016/j.mce.2011.06.042. Epub 2011 Jul 18. Review. PubMed PMID: 21782883.
10. Kalsbeek A, Liu J, **Lei J**, Timmermans L, Foppen E, Cailotto C, Fliers E. Differential involvement of the suprachiasmatic nucleus in lipopolysaccharide-induced plasma glucose and corticosterone responses. *Chronobiol Int*. 2012 Aug;29(7):835-49. doi: 10.3109/07420528.2012.699123. PubMed PMID: 22823867.
11. Wyse MM, **Lei J**, Nestor-Kalinowski AL, Eisenmann KM. Dia-interacting protein (DIP) imposes migratory plasticity in mDia2-dependent tumor cells in three-dimensional matrices. *PLoS One*. 2012;7(9):e45085. doi: 10.1371/journal.pone.0045085. Epub 2012 Sep 14. PubMed PMID: 23024796; PubMed Central PMCID: PMC3443221.
12. Carver AR, Andrikopoulou M, **Lei J**, Tamayo E, Gamble P, Hou Z, Zhang J, Mori S, Saade GR, Costantine MM, Burd I. Maternal pravastatin prevents altered fetal brain development in a preeclamptic CD-1 mouse model. *PLoS One*. 2014;9(6):e100873. doi: 10.1371/journal.pone.0100873. eCollection 2014. PubMed PMID: 24963809; PubMed Central PMCID: PMC4071009.
13. Adler DA, Ammanuel S, **Lei J**, Dada T, Borbiev T, Johnston MV, Kadam SD, Burd I. Circadian cycle-dependent EEG biomarkers of pathogenicity in adult mice following prenatal exposure to in utero inflammation. *Neuroscience*. 2014 Sep 5;275:305-13. doi: 10.1016/j.neuroscience.2014.06.022. Epub 2014 Jun 19. PubMed PMID: 24954445; PubMed Central PMCID: PMC4228951.
14. Rosenzweig JM, **Lei J**, Burd I. Interleukin-1 receptor blockade in perinatal brain injury. *Front Pediatr*. 2014;2:108. doi: 10.3389/fped.2014.00108. eCollection 2014. Review. PubMed PMID: 25340046; PubMed Central PMCID: PMC4187538.
15. **Lei J**, Firdaus W, Rosenzweig JM, Alrebh S, Bakhshwin A, Borbiev T, Fatemi A, Blakemore K, Johnston MV, Burd I. Murine model: maternal administration of stem cells for prevention of prematurity. *Am J Obstet Gynecol*. 2015 May;212(5):639.e1-10. doi:

- 10.1016/j.ajog.2014.12.032. Epub 2014 Dec 30. PubMed PMID: 25555657; PubMed Central PMCID: PMC4817275.
16. Wu D, **Lei J**, Rosenzweig JM, Burd I, Zhang J. In utero localized diffusion MRI of the embryonic mouse brain microstructure and injury. *J Magn Reson Imaging*. 2015 Sep;42(3):717-28. doi: 10.1002/jmri.24828. Epub 2014 Dec 24. PubMed PMID: 25537944; PubMed Central PMCID: PMC4523472.
 17. Mainigi M, Rosenzweig JM, **Lei J**, Mensah V, Thomaier L, Talbot CC Jr, Olalere D, Ord T, Rozzah R, Johnston MV, Burd I. Peri-Implantation Hormonal Milieu: Elucidating Mechanisms of Adverse Neurodevelopmental Outcomes. *Reprod Sci*. 2016 Jun;23(6):785-94. doi: 10.1177/1933719115618280. Epub 2015 Nov 26. PubMed PMID: 26614264; PubMed Central PMCID: PMC5933150.
 18. Saad A, Hegde S, Kechichian T, Gamble P, Rahman M, Stutz SJ, Anastasio NC, Alshehri W, **Lei J**, Mori S, Kajs B, Cunningham KA, Saade G, Burd I, Costantine M. Is There a Causal Relation between Maternal Acetaminophen Administration and ADHD?. *PLoS One*. 2016;11(6):e0157380. doi: 10.1371/journal.pone.0157380. eCollection 2016. PubMed PMID: 27295086; PubMed Central PMCID: PMC4905664.
 19. Nayak S, **Lei J**, Pekosz A, Klein S, Burd I. Pathogenesis and Molecular Mechanisms of Zika Virus. *Semin Reprod Med*. 2016 Sep;34(5):266-272. doi: 10.1055/s-0036-1592071. Epub 2016 Sep 9. Review. PubMed PMID: 27612156.
 20. Sheller-Miller S, **Lei J**, Saade G, Salomon C, Burd I, Menon R. Feto-Maternal Trafficking of Exosomes in Murine Pregnancy Models. *Front Pharmacol*. 2016;7:432. doi: 10.3389/fphar.2016.00432. eCollection 2016. PubMed PMID: 27895585; PubMed Central PMCID: PMC5108780.
 21. Saad AF, Alshehri W, **Lei J**, Kechichian TB, Gamble P, Alhejaily N, Shabi Y, Saade GR, Costantine MM, Burd I. Maternal Fructose Consumption Disrupts Brain Development of Offspring in a Murine Model of Autism Spectrum Disorder. *Am J Perinatol*. 2016 Dec;33(14):1357-1364. doi: 10.1055/s-0036-1583292. Epub 2016 May 2. PubMed PMID: 27135955.
 22. Vermillion MS, **Lei J**, Shabi Y, Baxter VK, Crilly NP, McLane M, Griffin DE, Pekosz A, Klein SL, Burd I. Intrauterine Zika virus infection of pregnant immunocompetent mice models transplacental transmission and adverse perinatal outcomes. *Nat Commun*. 2017 Feb 21;8:14575. doi: 10.1038/ncomms14575. PubMed PMID: 28220786; PubMed Central PMCID: PMC5321801.
 23. **Lei J**, Paules C, Nigrini E, Rosenzweig JM, Bahabry R, Farzin A, Yang S, Northington FJ, Oros D, McKenney S, Johnston MV, Graham EM, Burd I. Umbilical Cord Blood NOS1 as a Potential Biomarker of Neonatal Encephalopathy. *Front Pediatr*. 2017;5:112. doi: 10.3389/fped.2017.00112. eCollection 2017. PubMed PMID: 28649562; PubMed Central PMCID: PMC5466059.
 24. **Lei J**, Rosenzweig JM, Mishra MK, Alshehri W, Brancusi F, McLane M, Almalki A, Bahabry R, Arif H, Rozzah R, Alyousif G, Shabi Y, Alhehaily N, Zhong W, Facciabene A, Kannan S, Kannan RM, Burd I. Maternal dendrimer-based therapy for inflammation-induced preterm birth and perinatal brain injury. *Sci Rep*. 2017 Jul 21;7(1):6106. doi: 10.1038/s41598-017-06113-2. PubMed PMID: 28733619; PubMed Central PMCID: PMC5522481.
 25. Tsimis ME, **Lei J**, Rosenzweig JM, Arif H, Shabi Y, Alshehri W, Talbot CC, Baig-Ward KM, Segars J, Graham EM, Burd I. P2X7 receptor blockade prevents preterm birth and perinatal brain injury in a mouse model of intrauterine inflammation. *Biol Reprod*. 2017 Aug 1;97(2):230-239. doi: 10.1093/biolre/iox081. PubMed PMID: 29044426.
 26. Kelley MH, Wu WW, **Lei J**, McLane M, Xie H, Hart KD, Pereira L, Burd I, Maylie J. Functional changes in hippocampal synaptic signaling in offspring survivors of a mouse model of intrauterine

- inflammation. *J Neuroinflammation*. 2017 Sep 5;14(1):180. doi: 10.1186/s12974-017-0951-1. PubMed PMID: 28874190; PubMed Central PMCID: PMC5583754.
27. Wu D, **Lei J**, Jia B, Xie H, Zhu Y, Xu J, Mori S, Zhang J, Burd I. In vivo assessment of the placental anatomy and perfusion in a mouse model of intrauterine inflammation. *J Magn Reson Imaging*. 2018 May;47(5):1260-1267. doi: 10.1002/jmri.25867. Epub 2017 Oct 5. PubMed PMID: 28981189; PubMed Central PMCID: PMC5886819.
 28. **Lei J**, Xie L, Zhao H, Gard C, Clemens JL, McLane MW, Feller MC, Ozen M, Novak C, Alshehri W, Alhejaily N, Shabi Y, Rosenzweig JM, Facciabene A, Burd I. Maternal CD8⁺ T-cell depletion alleviates intrauterine inflammation-induced perinatal brain injury. *Am J Reprod Immunol*. 2018 May;79(5):e12798. doi: 10.1111/aji.12798. Epub 2017 Dec 4. PubMed PMID: 29205631; PubMed Central PMCID: PMC5908745.
 29. Novak CM, Ozen M, McLane M, Alqutub S, Lee JY, **Lei J**, Burd I. Progesterone improves perinatal neuromotor outcomes in a mouse model of intrauterine inflammation via immunomodulation of the placenta. *Am J Reprod Immunol*. 2018 May;79(5):e12842. doi: 10.1111/aji.12842. Epub 2018 Mar 1. PubMed PMID: 29493064.
 30. **Lei J**, Calvo P, Vigh R, Burd I. Journey to the Center of the Fetal Brain: Environmental Exposures and Autophagy. *Front Cell Neurosci*. 2018;12:118. doi: 10.3389/fncel.2018.00118. eCollection 2018. Review. PubMed PMID: 29773977; PubMed Central PMCID: PMC5943497.
 31. **Lei J**, Zhong W, Almalki A, Zhao H, Arif H, Rozzah R, Al Yousif G, Alhejaily N, Wu D, McLane M, Burd I. Maternal Glucose Supplementation in a Murine Model of Chorioamnionitis Alleviates Dysregulation of Autophagy in Fetal Brain. *Reprod Sci*. 2018 Aug;25(8):1175-1185. doi: 10.1177/1933719117734321. Epub 2017 Oct 11. PubMed PMID: 29017418; PubMed Central PMCID: PMC6346301.
 32. Wu D, Xu J, **Lei J**, Mclane M, van Zijl PC, Burd I. Dynamic glucose enhanced MRI of the placenta in a mouse model of intrauterine inflammation. *Placenta*. 2018 Sep;69:86-91. doi: 10.1016/j.placenta.2018.07.012. Epub 2018 Jul 20. PubMed PMID: 30213490; PubMed Central PMCID: PMC6880875.
 33. Novak CM, Lee JY, Ozen M, Tsimis ME, Kucirka LM, McLane MW, Xie L, Kelleher M, Xie H, Jia B, **Lei J**, Burd I. Increased placental T cell trafficking results in adverse neurobehavioral outcomes in offspring exposed to sub-chronic maternal inflammation. *Brain Behav Immun*. 2019 Jan;75:129-136. doi: 10.1016/j.bbi.2018.09.025. Epub 2018 Sep 25. PubMed PMID: 30261304.
 34. Jia B, Zong L, Lee JY, **Lei J**, Zhu Y, Xie H, Clemens JL, Feller MC, Na Q, Dong J, McLane MW, Jones-Beatty K, Burd I. Maternal Supplementation of Low Dose Fluoride Alleviates Adverse Perinatal Outcomes Following Exposure to Intrauterine Inflammation. *Sci Rep*. 2019 Feb 22;9(1):2575. doi: 10.1038/s41598-018-38241-8. PubMed PMID: 30796233; PubMed Central PMCID: PMC6385257.
 35. Eloundou SN, Lee J, Wu D, **Lei J**, Feller MC, Ozen M, Zhu Y, Hwang M, Jia B, Xie H, Clemens JL, McLane MW, AlSaggaf S, Nair N, Wills-Karp M, Wang X, Graham EM, Baschat A, Burd I. Placental malperfusion in response to intrauterine inflammation and its connection to fetal sequelae. *PLoS One*. 2019;14(4):e0214951. doi: 10.1371/journal.pone.0214951. eCollection 2019. PubMed PMID: 30943260; PubMed Central PMCID: PMC6447225.
 36. **Lei J**, Vermillion MS, Jia B, Xie H, Xie L, McLane MW, Sheffield JS, Pekosz A, Brown A, Klein SL, Burd I. IL-1 receptor antagonist therapy mitigates placental dysfunction and perinatal injury following Zika virus infection. *JCI Insight*. 2019 Apr 4;4(7). doi: 10.1172/jci.insight.122678. eCollection 2019 Apr 4. PubMed PMID: 30944243; PubMed Central PMCID: PMC6483652.
 37. Lee JY, Shin NE, Na Q, Dong J, Chudnovets A, Li S, Novak CM, McLane MW, **Lei J**, Burd I. Exposure to systemic and intrauterine inflammation leads to decreased pup survival via different placental mechanisms. *J Reprod Immunol*. 2019 Jun;133:52-62. doi: 10.1016/j.jri.2019.06.004. Epub 2019 Jul 2. PubMed PMID: 31280130.

38. Lee JY, Song H, Dash O, Park M, Shin NE, McLane MW, **Lei J**, Hwang JY, Burd I. Administration of melatonin for prevention of preterm birth and fetal brain injury associated with premature birth in a mouse model. *Am J Reprod Immunol*. 2019 Sep;82(3):e13151. doi: 10.1111/aji.13151. Epub 2019 Jun 18. PubMed PMID: 31131935.
39. Lee JY, Li S, Shin NE, Na Q, Dong J, Jia B, Jones-Beatty K, McLane MW, Ozen M, **Lei J**, Burd I. Melatonin for prevention of placental malperfusion and fetal compromise associated with intrauterine inflammation-induced oxidative stress in a mouse model. *J Pineal Res*. 2019 Oct;67(3):e12591. doi: 10.1111/jpi.12591. Epub 2019 Jul 10. PubMed PMID: 31231832.
40. Dong J, Shin N, Lee JY, Jia B, Chudnovets A, McLane MW, Li S, Na Q, **Lei J**, Burd I. Maternal inflammation leads to different mTORC1 activity varied by anatomic locations in mouse placenta†. *Biol Reprod*. 2019 Nov 21;101(5):1046-1055. doi: 10.1093/biolre/iox151. PubMed PMID: 31403169.
41. Ozen M, Xie H, Shin N, Al Yousif G, Clemens J, McLane MW, **Lei J**, Burd I. Magnesium sulfate inhibits inflammation through P2X7 receptors in human umbilical vein endothelial cells. *Pediatr Res*. 2020 Feb;87(3):463-471. doi: 10.1038/s41390-019-0557-7. Epub 2019 Sep 7. PubMed PMID: 31493768; PubMed Central PMCID: PMC7035964.
42. Wu D, **Lei J**, Xie H, Dong J, Burd I. Diffusion MRI revealed altered inter-hippocampal projections in the mouse brain after intrauterine inflammation. *Brain Imaging Behav*. 2020 Apr;14(2):383-395. doi: 10.1007/s11682-019-00246-w. PubMed PMID: 32152950.
43. Dong J, **Lei J**, Elsayed NA, Lee JY, Shin N, Na Q, Chudnovets A, Jia B, Wang X, Burd I. The effect of intrauterine inflammation on mTOR signaling in mouse fetal brain. *Dev Neurobiol*. 2020 May;80(5-6):149-159. doi: 10.1002/dneu.22755. Epub 2020 Jun 3. PubMed PMID: 32333505.
44. Chudnovets A, **Lei J**, Na Q, Dong J, Narasimhan H, Klein SL, Burd I. Dose-dependent structural and immunological changes in the placenta and fetal brain in response to systemic inflammation during pregnancy. *Am J Reprod Immunol*. 2020 Jul;84(1):e13248. doi: 10.1111/aji.13248. Epub 2020 May 22. PubMed PMID: 32306461; PubMed Central PMCID: PMC8172143.
45. Zhao H, Xie L, Clemens JL, Zong L, McLane MW, Arif H, Feller MC, Jia B, Zhu Y, Facciabene A, Ozen M, **Lei J**, Burd I. Mouse Bone Marrow-Derived Mesenchymal Stem Cells Alleviate Perinatal Brain Injury Via a CD8⁺ T Cell Mechanism in a Model of Intrauterine Inflammation. *Reprod Sci*. 2020 Jul;27(7):1465-1476. doi: 10.1007/s43032-020-00157-y. Epub 2020 Jan 29. PubMed PMID: 31997258.
46. Dong J, Shin N, Chen S, **Lei J**, Burd I, Wang X. Is there a definite relationship between placental mTOR signaling and fetal growth?. *Biol Reprod*. 2020 Aug 21;103(3):471-486. doi: 10.1093/biolre/ioaa070. PubMed PMID: 32401303.
47. Lee JY, Na Q, Shin NE, Shin HE, Kang Y, Chudnovets A, **Lei J**, Song H, Burd I. Melatonin for prevention of fetal lung injury associated with intrauterine inflammation and for improvement of lung maturation. *J Pineal Res*. 2020 Oct;69(3):e12687. doi: 10.1111/jpi.12687. Epub 2020 Aug 14. PubMed PMID: 32737901.
48. Sherer ML, **Lei J**, Creisher P, Jang M, Reddy R, Voegtline K, Olson S, Littlefield K, Park HS, Ursin RL, Ganesan A, Boyer T, Brown DM, Walch SN, Antar AAR, Manabe YC, Jones-Beatty K, Golden WC, Satin AJ, Sheffield JS, Pekosz A, Klein SL, Burd I. Dysregulated immunity in SARS-CoV-2 infected pregnant women. medRxiv. 2020 Nov 16;. doi: 10.1101/2020.11.13.20231373. PubMed PMID: 33236024; PubMed Central PMCID: PMC7685337.
49. Na Q, Chudnovets A, Liu J, Lee JY, Dong J, Shin N, Elsayed N, **Lei J**, Burd I. Placental Macrophages Demonstrate Sex-Specific Response to Intrauterine Inflammation and May Serve as a Marker of Perinatal Neuroinflammation. *J Reprod Immunol*. 2021 Sep;147:103360. doi: 10.1016/j.jri.2021.103360. Epub 2021 Jul 29. PubMed PMID: 34390899.
50. Sherer ML, **Lei J**, Creisher PS, Jang M, Reddy R, Voegtline K, Olson S, Littlefield K, Park HS, Ursin RL, Ganesan A, Boyer T, Elsayed N, Brown DM, Walch SN, Antar AAR, Manabe YC,

- Jones-Beatty K, Golden WC, Satin AJ, Sheffield JS, Pekosz A, Klein SL, Burd I. Pregnancy alters interleukin-1 beta expression and antiviral antibody responses during severe acute respiratory syndrome coronavirus 2 infection. *Am J Obstet Gynecol.* 2021 Sep;225(3):301.e1-301.e14. doi: 10.1016/j.ajog.2021.03.028. Epub 2021 Mar 30. PubMed PMID: 33798476; PubMed Central PMCID: PMC8008823.
51. Liu J, Liu Y, Panda S, Liu A, **Lei J**, Burd I. Type 1 Cytotoxic T Cells Increase in Placenta after Intrauterine Inflammation. *Front Immunol.* 2021;12:718563. doi: 10.3389/fimmu.2021.718563. eCollection 2021. PubMed PMID: 34566975; PubMed Central PMCID: PMC8456007.
 52. Liu Y, Na Q, Liu J, Liu A, Oppong A, Lee JY, Chudnovets A, **Lei J**, Sharma R, Kannan S, Kannan RM, Burd I. Dendrimer-Based N-Acetyl Cysteine Maternal Therapy Ameliorates Placental Inflammation *via* Maintenance of M1/M2 Macrophage Recruitment. *Front Bioeng Biotechnol.* 2022;10:819593. doi: 10.3389/fbioe.2022.819593. eCollection 2022. PubMed PMID: 35155393; PubMed Central PMCID: PMC8831692.
 53. Patrick Creisher P, **Lei J**, Sherer M, Narasimhan H, Chudnovets A, Campbell A, Liu A, Burd I, Klein S. Placental NLRP3 Inflammasome signaling is not associated with inflammation following in utero Zika virus infection of immunocompetent dams. *Frontiers in Virology.* 2022 February.
 54. Liu Y, Liu J, Liu A, Yin H, Burd I, **Lei J**. Maternal siRNA silencing of placental SAA2 mitigates preterm birth following intrauterine inflammation. *Front Immunology.* 2022 Sep 23;13:902096. doi: 10.3389/fimmu.2022.902096. eCollection 2022.

Major Invited Speeches

1. 2015 “Basic molecular techniques.” Johns Hopkins University, “From Bench to Bedside”, Baltimore, MD
2. 2015 “Mouse model of intrauterine inflammation: role of maternal glucose supplementation.” Society for Reproductive Investigation, San Francisco, CA
3. 2015 “Maternal glucose supplementation alleviates intrauterine inflammation-induced inhibition of autophagy in fetal brain.” Society for Maternal Fetal Medicine Annual Pregnancy Meeting, Atlanta, GA
4. 2017 “Bench Practice.” Johns Hopkins University, “From Bench to Bedside”, Baltimore, MD
5. 2017 “Volumetric and vascular MRI placental changes with exposure to intrauterine inflammation: biomarker of fetal brain injury.” Society for Reproductive Investigation Annual Scientific Meeting, San Diego, CA
6. 2017 “Placental vascular malperfusion in response to intrauterine inflammation and its connection to fetal brain injury.” American Society for Reproductive Immunology, Chicago, IL
7. 2018 “IL-1 receptor antagonist improves trophoblast invasion, endothelial development and ZIKV sequelae in offspring.” Society for Reproductive Investigation Annual Scientific Meeting, San Diego, CA
8. 2020 “Role of serum amyloid A in the pathogenesis of preterm birth and associated perinatal brain injury.” Neuroscience Seminar, Johns Hopkins University, Baltimore, MD
9. 2020 “Maternal administration of siRNA-SAA alleviates preterm birth through PD-1/PD-L1 signaling in a mouse model of sub-chronic maternal inflammation.” Annual Scientific Meeting Society for Reproductive Investigation Boston, MA
10. 2022 “Genetic P2X7 receptor blockade diminishes placental trophoblast and endothelial injury and infectious viral titer in a mouse model of congenital cytomegalovirus infection.” Annual Scientific Meeting Society for Reproductive Investigation, Denver, CO