Stephan Schmitz-Esser
Professor, Department of Animal Science, Iowa State University
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Email: sse@iastate.edu Office phone: 515-294-2739

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EMPLOYMENT

2022 – present
Professor
Department of Animal Science, Iowa State University, Ames, IA
70% Research, 25% Teaching, 5% Service

2015 - 2022 **Associate Professor**
Department of Animal Science, Iowa State University, Ames, IA
70% Research, 25% Teaching, 5% Service

2014 – 2015 **Group leader**
Institute for Milk Hygiene, Milk Technology and Food Science, University of Veterinary Medicine Vienna, Austria

2010 – 2014 **Postdoctoral Associate**
Main focus: Microbiome characterizations of farm animals; Ecology of food-borne pathogens: Persistence of *Listeria monocytogenes* in food production environments; host cell interaction mechanisms of *Amoebophilus asiaticus* and of *Cardinium hertigii*.
Institute for Milk Hygiene, Milk Technology and Food Science, University of Veterinary Medicine Vienna, Austria

2004- 2010 **Postdoctoral Associate**
Main focus: Nucleotide transport proteins in intracellular bacteria, genome sequencing and analyses of *Amoebophilus asiaticus* and *Cardinium hertigii*.
Division of Microbial Ecology, University of Vienna, Austria

EDUCATION

2001-2004 Division of Microbial Ecology, University of Vienna (Ecology): PhD, 2004
Title: "Molecular interaction between a chlamydia-related endosymbiont and its *Acanthamoeba* host"

1996-2001 Technische Universität München (Germany) Biology, Diploma, 2001.
Main subject: Microbiology

AWARDS

2021 Elected member of Sigma Xi (The Scientific Research Honor Society)
2018 Elected member of Gamma Sigma Delta (The Honor Society of Agriculture)
2014 Hygiene-Prize of the Austrian Society for Hygiene, Microbiology and Preventive Medicine (ÖGHMP).
This prize is awarded yearly to one scientist in Austria for the best publication in the fields of Environmental, Water, Hospital, Veterinary or Food Hygiene. (Awarded for: Mueller et al., 2013 PLoS One: "Tn6188 - a novel transposon in Listeria monocytogenes responsible for tolerance to benzalkonium chloride"

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- International Association for Food Protection (IAFP) 2019 - present
- American Dairy Science Association (ADSA) 2017 - present
- International Society for Microbial Ecology (ISME) 2008 - present
- American Society for Microbiology (ASM) 2003 - present

RESEARCH
(70% OF APPOINTMENT)

PEER-REVIEWED JOURNAL ARTICLES AT ISU
(since December 2015, n=69)

Total number of papers in peer-reviewed journals: 108
Total number of citations: 5437 (based on Google Scholar, accessed 03-18-2024), average citations per paper: 32
h-index: 40 (Google Scholar); average journal impact factor of publications: 5.7

*An **asterisk (*)** indicates trainees from my program since joining ISU in 2015. A **pound sign (#)** next to my name indicates that I served as the corresponding author. Publications from the years 2016 to present that (at least partially) resulted from experimental work started at my previous position at the University of Veterinary Medicine Vienna are indicated. SSE – Stephan Schmitz-Esser*

1. Cassas MS, Jonas LC*, Anderson CJ*, **Schmitz-Esser S#**, Youngs CR. 2024. Temporal changes in ewe vaginal microbiota throughout gestation. ***Front Microbiol***. 15:1359678. doi: 10.3389/fmicb.2024.1359678.
   (Approximate percentage contribution 20%).
   SSE was a collaborator on the project, contributed intellectually to study design, data analysis and interpretation, and contributed to writing the manuscript and responding to reviewer comments
   Authors LCJ and CJA are trainees in SSE's program.
2. Tibbs-Cortes BW, Rahic-Seggerman FM*, **Schmitz-Esser S**, Boggiatto PM, Olsen S, Putz EJ. 2024. Fecal and vaginal microbiota of vaccinated and non-vaccinated pregnant elk challenged with *Brucella abortus*. ***Front Vet Sci***. 11:1334858. doi: 10.3389/fvets.2024.1334858.
   (Approximate percentage contribution 10%).
   SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript and responding to reviewer comments
   Author FMRS is a trainee in SSE's program.
3. Rahic-Seggerman FM*, Rosenthal K, Miller C, Iske C, Graham J, **Schmitz-Esser S**, Kohles MR. 2024. Effects of diet on the bacterial and eukaryotic microbiota across the gastrointestinal tract of healthy rabbits (*Oryctolagus cuniculus*). ***Am J Vet Res***. 2024 Feb 10:1-11. doi: 10.2460/ajvr.23.10.0234
   (Approximate percentage contribution 30%).
   SSE was a collaborator on the project, obtained funding for the research, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript and responding to reviewer comments

Author FMRS is a trainee in SSE's program.

4. Fries-Craft K, **Schmitz-Esser S**, Bobeck EA. 2023. Dietary peptide-specific antibodies against interleukin-4 differentially alter systemic immune cell responses during *Eimeria* challenge with minimal impacts on the cecal microbiota. ***Poult Sci*.** 102(12):103134. doi: 10.1016/j.psj.2023.103134.
   (Approximate percentage contribution 15%).
   SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript and responding to reviewer comments
5. Fries-Craft K, **Schmitz-Esser S**, Bobeck EA. 2023. Dietary alfalfa hay or lipid-soluble alfalfa extract may improve broiler growth, but fiber presence may be detrimental during *Eimeria* vaccine challenge. ***Poult Sci***. 102(11):103019. doi: 10.1016/j.psj.2023.103019.
   (Approximate percentage contribution 15%).
   SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript and responding to reviewer comment
6. Anderson CJ*, Altendorf BJ, **Schmitz-Esser S**, Koltes DA. 2023. Characterization of the eukaryotic microbial communities in the chicken ileum in cage-free and conventional commercial housing systems. ***Poult Sci***. 102(5):102621. doi: 10.1016/j.psj.2023.102621
   (Approximate percentage contribution 30%).
   SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript and responding to reviewer comments
   Author CJA is a trainee in SSE's program.
7. Koester LR*, Hayman K, Anderson CJ*, Tibbs-Cortes BW*, Daniels KM, Seggerman FM*, Gorden PJ, Lyte M, **Schmitz-Esser S#**. 2023. Influence of a sodium-saccharin sweetener on the rumen content and rumen epithelium microbiota in dairy cattle during heat stress. ***J Anim Sci***. 101:skac403. doi: 10.1093/jas/skac403.
   (Approximate percentage contribution 30%).
   SSE obtained funding for the project, oversaw study design, data collection and analyses, writing the manuscript and responding to reviewer comments.
   Authors LRK, CJA, BWTC, FMS are trainees in SSE's program.
8. Zhang W, Xie J, Xia S, Fan X, **Schmitz-Esser S**, Zeng B, Zheng L, Huang H, Wang H, Zhong J, Zhang Z, Zhang L, Jiang M, Hou R. Evaluating a potential model to analyze the function of the gut microbiota of the giant panda. 2022. ***Front Microbiol***. 13:1086058. doi: 10.3389/fmicb.2022.1086058.
   (Approximate percentage contribution 10%).
   SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript and responding to reviewer comments.
9. Wickramasinghe J, Anderson CJ*, Kaya CA, Gorden PJ, Ribeiro FRB, Dohms J, Rigert S, **Schmitz-Esser S**, Appuhamy R. 2022. Evaluating ruminal and small intestinal morphology and microbiota composition of calves fed a Macleaya cordata extract preparation. ***Animals*** (Basel). 13(1):54. doi: 10.3390/ani13010054.
   (Approximate percentage contribution 10%).
   SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript and responding to reviewer comments.
   Author CJA is a trainee in SSE's program.
10. Wasendorf C, **Schmitz-Esser S**, Eischeid CJ, Leyhe MJ, Nelson EN, Rahic-Seggerman FM*, Sullivan KE, Peters NT. 2022. Genome analysis of *Erwinia persicina* reveals implications for soft rot pathogenicity in plants. ***Front Microbiol***. 13:1001139. doi: 10.3389/fmicb.2022.1001139
    (Approximate percentage contribution 15%).

SSE was a collaborator on the project, contributed intellectually by providing training to author CW, to data interpretation, and contributed to writing the manuscript and responding to reviewer comments.
Author FMRS is a trainee in SSE's program.

11. Anast JM*, Etter AJ, **Schmitz-Esser S**#. 2022. Comparative analysis of *Listeria monocytogenes* plasmid transcriptomes reveals common and plasmid-specific gene expression patterns and high expression of noncoding RNAs. ***MicrobiologyOpen***. (5):e1315. doi: 10.1002/mbo3.1315.
(Approximate percentage contribution 30%).
SSE obtained funding for the project, oversaw study design, data collection and analyses, writing the manuscript and responding to reviewer comments.
Author JMA is a trainee in SSE's program.
12. Schultz DL*, Selberherr M, Stouthamer CM, Doremus MR, Kelly SE, Hunter MS, **Schmitz-Esser S**#. 2022. Sex-based de novo transcriptome assemblies of the parasitoid wasp *Encarsia suzannae*, a host of the manipulative heritable symbiont *Cardinium hertigii*. ***Gigabyte***. doi: 10.46471/gigabyte.68
(Approximate percentage contribution 25%).
SSE obtained funding for the project, oversaw study design, data collection and analyses, writing the manuscript and responding to reviewer comments.
Author DLS is a trainee in SSE's program.
13. Tibbs-Cortes LE, Tibbs-Cortes BW*, **Schmitz-Esser S**. 2022. Tardigrade community microbiomes in North American orchards include putative endosymbionts and plant pathogens. ***Front Microbiol.*** 13:866930. doi: 10.3389/fmicb.2022.866930
(Approximate percentage contribution 10%).
SSE was a collaborator on the project, contributed intellectually to data interpretation, and contributed to writing the manuscript and responding to reviewer comments.
Author BWTC is a trainee in SSE's program.
14. Greiner LL, Humphrey DC, Holland SN, Anderson CJ*, **Schmitz-Esser S**. 2022. The validation of the existence of the entero-mammary pathway and the assessment of the differences of the pathway between first and third parity sows. ***Transl Anim Sci.*** 6(2):txac047. doi: 10.1093/tas/txac047
(Approximate percentage contribution 10%).
SSE was a collaborator on the project, contributed intellectually by providing training to authors DCH and SNH to data interpretation, and contributed to writing the manuscript and responding to reviewer comments.
Author CJA is a trainee in SSE's program.
15. Quijada NM, Dzieciol M, **Schmitz-Esser S**, Wagner M, Selberherr E. 2022. Metatranscriptomic analyses unravel dynamic changes in the microbial and metabolic transcriptional profiles in artisanal Austrian hard-cheeses during ripening. ***Front Microbiol.*** 13:813480. doi: 10.3389/fmicb.2022.813480
(Approximate percentage contribution 10%).
SSE was a collaborator on the project, contributed intellectually to data interpretation, and contributed to writing the manuscript and responding to reviewer comments.
16. Doremus MR, Stouthamer CM, Kelly SE, **Schmitz-Esser S**, Hunter MS. 2022. Quality over quantity: unraveling the contributions to cytoplasmic incompatibility caused by two coinfecting *Cardinium* symbionts. ***Heredity (Edinb).*** 128(3):187-195. doi: 10.1038/s41437-022-00507-3
(Approximate percentage contribution 10%).
SSE was a collaborator on the project, contributed intellectually by providing training to author MRD, and contributed to writing the manuscript and responding to reviewer comments.
17. Selberherr E, Penz T, König L, Conrady B, Siegl A, Horn M, **Schmitz-Esser S**#. 2022. The life cycle-dependent transcriptional profile of the obligate intracellular amoeba symbiont *Amoebophilus asiaticus*. ***FEMS Microbiol Ecol.*** 98(1):fiac001. doi: 10.1093/femsec/fiac001
(Approximate percentage contribution 25%).

SSE obtained funding for the project, oversaw study design, data collection and analyses, writing the manuscript and responding to reviewer comments.

18. Koester LR*, Petry AL, Youngs CR, **Schmitz-Esser S#**. 2021. Ewe vaginal microbiota: associations with pregnancy outcome and changes during gestation. ***Front Microbiol***. 12:745884. doi: 10.3389/fmicb.2021.745884
    (Approximate percentage contribution 10%).
    SSE was a collaborator on the project, contributed intellectually by analysis and interpretation of data and contributed to writing the manuscript and responding to reviewer comments. Author LRK is a trainee in SSE's program.
19. Kiefer ZE, Koester LR*, Studer JM, Chipman AL, Mainquist-Whigham C, Keating AF, **Schmitz-Esser S**, Ross JW. 2021. Vaginal microbiota differences associated with pelvic organ prolapse risk during late gestation in commercial sows. ***Biol Reprod.*** 105(6):1545-1561. doi: 10.1093/biolre/ioab178
    (Approximate percentage contribution 10%).
    SSE was a collaborator on the project, contributed intellectually by analysis and interpretation of data and contributed to writing the manuscript and responding to reviewer comments. Author LRK is a trainee in SSE's program.
20. Anast JM*, **Schmitz-Esser S#**. 2021. Certain *Listeria monocytogenes* plasmids contribute to increased UVC ultraviolet light stress. ***FEMS Microbiol Lett***. 368(17):fnab123. doi: 10.1093/femsle/fnab123.
    (Approximate percentage contribution 40%).
    SSE obtained funding for the project, oversaw study design, data collection and analyses, writing the manuscript and responding to reviewer comments. Author JMA is a trainee in SSE's program.
21. Wagner M, Slaghuis J, Göbel W, Vázquez-Boland JA, Rychli K, **Schmitz-Esser S**. 2021. Virulence pattern analysis of three *Listeria monocytogenes* lineage I epidemic strains with distinct outbreak histories. ***Microorganisms*** 9(8):1745. doi: 10.3390/microorganisms9081745
    (Approximate percentage contribution 20%).
    SSE was a collaborator on the project, contributed intellectually by analysis and interpretation of data and contributed to writing the manuscript and responding to reviewer comments. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
22. Yan Z, Xu Q, Hsu WH, **Schmitz-Esser S**, Ayala J, Hou R, Yao Y, Jiang D, Yuan S, Wang H. 2021. Consuming different structural parts of bamboo induce gut microbiome changes in captive Giant Pandas. ***Curr Microbiol***. 78(8):2998-3009. doi: 10.1007/s00284-021-02503-y
    (Approximate percentage contribution 10%).
    SSE was a collaborator on the project, contributed intellectually by analysis and interpretation of data and contributed to writing the manuscript and responding to reviewer comments.
23. Petry AL, Patience JF, Huntley NF, Koester LR*, Bedford MR, **Schmitz-Esser S#**. 2021. Xylanase supplementation modulates the microbiota of the large intestine of pigs fed corn-based fiber by means of a stimbiotic mechanism of action. ***Front Microbiol***. 12:619970. doi: 10.3389/fmicb.2021.619970
    (Approximate percentage contribution 20%).
    SSE was a collaborator on the project, contributed intellectually by interpretation of data and by providing training for authors ALP and LRK, and contributed to writing the manuscript and responding to reviewer comments. Author LRK is a trainee in SSE's program.
24. Anderson CJ*, Koester LR*, **Schmitz-Esser S#**. 2021. Rumen epithelial communities share a core bacterial microbiota: A meta-analysis of 16S rRNA gene Illumina MiSeq sequencing datasets. ***Front Microbiol***. 12:625400. doi: 10.3389/fmicb.2021.625400.
    (Approximate percentage contribution 40%).
    SSE obtained funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Authors CJA and LRK are trainees in SSE's program.

25. Kiefer ZE, Koester LR*, Showman L, Studer JM, Chipman AL, Keating AF, **Schmitz-Esser S**, Ross JW. 2021. Vaginal microbiome and serum metabolite differences in late gestation commercial sows at risk for pelvic organ prolapse. ***Sci Rep***. 11(1):6189. doi: 10.1038/s41598-021-85367-3
(Approximate percentage contribution 15%).
SSE was a collaborator on the project, contributed intellectually to study design and interpretation of data and by providing training for authors ZEK and LRK, and contributed to writing the manuscript and responding to reviewer comments. Author LRK is a trainee in SSE's program.
26. **Schmitz-Esser S#**, Anast JM*, Cortes BW*. 2021. A large-scale sequencing-based survey of plasmids in *Listeria monocytogenes* reveals global dissemination of plasmids. ***Front Microbiol.*** 12:653155. doi: 10.3389/fmicb.2021.653155.
(Approximate percentage contribution 60%).
SSE obtained competitive funding the project, oversaw study design, data collection and analyses, writing the manuscript and responding to reviewer comments. Authors JMA and BWC are trainees in SSE's program.
27. **Schmitz-Esser S#**. 2021. The rumen epithelial microbiota: Possible gatekeepers of the rumen epithelium and its potential contributions to epithelial barrier function and animal health and performance. ***Meat and Muscle Biology*** 4 (2) p.19, 1 – 11. doi: 10.22175/mmb.11672
(Approximate percentage contribution 100%).
Invited review paper for conference
28. Wiersema ML, Koester LR*, **Schmitz-Esser S,** Koltes DA. 2021. Comparison of intestinal permeability, morphology, and ileal microbial communities of commercial hens housed in conventional cages and cage-free housing systems. ***Poult Sci*.** 100(2):1178-1191. doi: 10.1016/j.psj.2020.10.052.
(Approximate percentage contribution 15%).
SSE was a collaborator on the project, contributed intellectually to data interpretation and provided training for authors MLW and LRK, and contributed to writing the manuscript and responding to reviewer comments. Author LRK is a trainee in SSE's program.
29. Petry AL, Patience JF, Koester LR*, Huntley NF, Bedford MR, **Schmitz-Esser S#.** 2021. Xylanase modulates the microbiota of ileal mucosa and digesta of pigs fed corn-based arabinoxylans likely through both a stimbiotic and prebiotic mechanism. ***PLoS One***. 16(1):e0246144. doi: 10.1371/journal.pone.0246144
(Approximate percentage contribution 20%).
SSE was a collaborator on the project, contributed intellectually by providing training for authors ALP and LRK, and contributed to writing the manuscript and responding to reviewer comments. Author LRK is a trainee in SSE's program.
30. Doremus MR, Stouthamer CM, Kelly SE, **Schmitz-Esser S**, Hunter MS. 2020. *Cardinium* localization during its parasitoid wasp host's development provides insights into cytoplasmic incompatibility. ***Front Microbiol***; 11:606399. doi: 10.3389/fmicb.2020.606399.
(Approximate percentage contribution 10%).
SSE was a collaborator on the project, contributed intellectually by providing training to author MRD, and contributed to writing the manuscript and responding to reviewer comments.
31. Kilburn LR, Koester LR*, **Schmitz-Esser S**, Serão NVL, Rossoni Serão MC. 2020. High-fat diets led to OTU-level shifts in fecal samples of healthy adult dogs. ***Front Microbiol***; 11:564160. doi: 10.3389/fmicb.2020.564160
(Approximate percentage contribution 15%).
SSE was a collaborator on the project, contributed intellectually to data interpretation and by providing training for authors LR Kilburn and LR Koester, and contributed to writing the manuscript and responding to reviewer comments. Author LR Koester is a trainee in SSE's program.
32. Quijada NM, **Schmitz-Esser S**, Zwirzitz B, Guse C, Strachan CR, Wagner M, Wetzels SU, Selberherr E, Dzieciol M. 2020. Austrian raw-milk hard-cheese ripening involves successional

dynamics of non-inoculated bacteria and fungi. ***Foods***; 9(12):1851. doi: 10.3390/foods9121851.
(Approximate percentage contribution 10%).
SSE was a collaborator on the project, contributed intellectually to data interpretation, and contributed to writing the manuscript and responding to reviewer comments.

33. Wagner E, Zaiser A, Leitner R, Quijada NM, Pracser N, Pietzka A, Ruppitsch W**, Schmitz-Esser S**, Wagner M, Rychli K. 2020. Virulence characterization and comparative genomics of *Listeria monocytogenes* sequence type 155 strains. ***BMC Genomics***; 21(1):847. doi: 10.1186/s12864-020-07263-w.
(Approximate percentage contribution 15%).
SSE was a collaborator on the project, contributed intellectually to analysis of data, and contributed to writing the manuscript and responding to reviewer comments.
34. Anast JM*, Bobik TA, **Schmitz-Esser S#**. 2020. The cobalamin-dependent gene cluster of *Listeria monocytogenes*: Implications for virulence, stress response, and food safety. ***Front Microbiol***; 11:601816. doi: 10.3389/fmicb.2020.601816.
(Approximate percentage contribution 40%).
SSE obtained funding for the project, oversaw study design, data collection and analyses, writing the manuscript and responding to reviewer comments. Author JMA is a trainee in SSE's program.
35. Quijada NM, Bodas R, Lorenzo JM, **Schmitz-Esser S**, Rodríguez-Lázaro D, Hernández M. 2020. Dietary supplementation with sugar beet fructooligosaccharides and garlic residues promotes growth of beneficial bacteria and increases weight gain in neonatal lambs. ***Biomolecules***; 10(8):1179. doi: 10.3390/biom10081179.
(Approximate percentage contribution 10%).
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript and responding to reviewer comments.
36. Koester LR*, Poole DH, Serão NVL, **Schmitz-Esser S#**. 2020. Beef cattle that respond differently to fescue toxicosis have distinct gastrointestinal tract microbiota. ***PLoS One***. 15(7):e0229192. doi: 10.1371/journal.pone.0229192
(Approximate percentage contribution 25%).
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript. Author LRK is a trainee in SSE's program.
37. Anast JM*, **Schmitz-Esser S#.** 2020. The transcriptome of *Listeria monocytogenes* during co-cultivation with cheese rind bacteria suggests adaptation by induction of ethanolamine and 1,2-propanediol catabolism pathway genes. ***PLoS One***. 15(7):e0233945. doi: 10.3389/fmicb.2019.03110
(Approximate percentage contribution 40%).
SSE obtained competitive funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Author JMA is a trainee in SSE's program.
38. Fries-Craft K, Anast JM*, **Schmitz-Esser S**, Bobeck EA. 2020. Host immunity and the colon microbiota of mice infected with *Citrobacter rodentium* are beneficially modulated by lipid-soluble extract from late-cutting alfalfa in the early stages of infection. ***PLoS One***. 15(7):e0236106.*doi: 10.1371/journal.pone.0236106*
(Approximate percentage contribution 15%).
SSE was a collaborator on the project, contributed intellectually by interpretation of the data and by providing training for authors KFC and JMA, and contributed to writing the manuscript. Author JMA is a trainee in SSE's program.
39. Wickramasinghe HKJP, Anast JM*, **Schmitz-Esser S**, Serão NVL, Appuhamy JADRN. 2020. Beginning to offer drinking water at birth increases the species richness and the abundance of

Faecalibacterium and *Bifidobacterium* in the gut of preweaned dairy calves. ***J Dairy Sci*.** 103(5):4262-4274. doi: 10.3168/jds.2019-17258
(Approximate percentage contribution 15%).
SSE was a collaborator on the project, contributed intellectually by data analysis and interpretation and by providing training for authors HKJPW and JMA, and contributed to writing the manuscript. Author JMA is a trainee in SSE's program.

40. Sanglard LP, **Schmitz-Esser S**, Gray KA, Linhares DCL, Yeoman CJ, Dekkers JCM, Niederwerder MC, Serão NVL. 2020. Vaginal microbiota diverges in sows with low and high reproductive performance after porcine reproductive and respiratory syndrome vaccination. ***Sci Rep*.** 10(1):3046. doi: 10.1038/s41598-020-59955-8
(Approximate percentage contribution 15%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
41. Cortes BW*, Naditz AL*, Anast JM*, **Schmitz-Esser S#**. 2020. Transcriptome sequencing of *Listeria monocytogenes* reveals major gene expression changes in response to lactic acid stress exposure but a less pronounced response to oxidative stress. ***Front Microbiol***. 10:3110. doi: 10.3389/fmicb.2019.03110.
(Approximate percentage contribution 25%)
SSE obtained competitive funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Authors BWC, ALN, JMA are trainees in SSE's program.
42. Sanglard LP, **Schmitz-Esser S**, Gray KA, Linhares DCL, Yeoman CJ, Dekkers JCM, Niederwerder MC, Serão NVL. 2020. Investigating the relationship between vaginal microbiota and host genetics and their impact on immune response and farrowing traits in commercial gilts. ***J Anim Breed Genet***. 137 (1), 84-102. doi: 10.1111/jbg.12456
(Approximate percentage contribution 15%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
43. Stouthamer CM, Kelly SE, Mann E, **Schmitz-Esser S**, Hunter MS. 2019. Development of a Multi-Locus Sequence Typing system helps reveal the evolution of *Cardinium hertigii*, a reproductive manipulator symbiont of insects. ***BMC Microbiol***. 19, 266. doi: 10.1186/s12866-019-1638-9
(Approximate percentage contribution 10%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
44. Klein-Jöbstl D, Quijada NM, Dzieciol M, Feldbacher B, Wagner M, Drillich M, **Schmitz-Esser S**, Mann E. 2019. Microbiota of newborn calves and their mothers reveals possible transfer routes for newborn calves' gastrointestinal microbiota. ***PLoS One***. 14(8):e0220554. doi: 10.1371/journal.pone.0220554
(Approximate percentage contribution 10%)
SSE was a collaborator on the project, contributed intellectually to study design, data analysis and interpretation, and contributed to writing the manuscript. This publication is based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
45. Zwirzitz B, Pinior B, Metzler-Zebeli B, Handler M, Gense K, Knecht C, Ladinig A, Dzieciol M, Wetzels SU, Wagner M, **Schmitz-Esser S**, Mann E. 2019. Microbiota of the gut-lymph node axis: Depletion of mucosa-associated Segmented Filamentous Bacteria and enrichment of *Methanobrevibacter* by colistin sulfate and Linco-Spectin in pigs. ***Front Microbiol*.** 10:599. doi: 10.3389/fmicb.2019.00599.
(Approximate percentage contribution 5%)
SSE was a collaborator on the project, contributed intellectually to interpretation of data, and contributed to writing the manuscript. This publication is based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.

46. Sant'Anna FM, Wetzels SU, Cicco SHS, Figueiredo RC, Sales GA, Figueiredo NC, Nunes CA, **Schmitz-Esser S**, Mann E, Wagner M, Souza MR. 2019. Microbial shifts in Minas artisanal cheeses from the Serra do Salitre region of Minas Gerais, Brazil throughout ripening time. ***Food Microbiol*.** 82:349-362. doi: 10.1016/j.fm.2019.02.016
(Approximate percentage contribution 5%)
SSE was a collaborator on the project, contributed intellectually to interpretation of data, and contributed to writing the manuscript. This publication is based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
47. Anast JM*, Dzieciol M, Schultz DL*, Wagner M, Mann E, **Schmitz-Esser S#**. 2019. *Brevibacterium* from Austrian hard cheese harbor a putative histamine catabolism pathway and a plasmid for adaptation to the cheese environment. ***Sci Rep*.** 9(1):6164. doi: 10.1038/s41598-019-42525-y
(Approximate percentage contribution 25%)
SSE obtained funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Authors JMA and DLS are trainees in SSE's program. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
48. Naditz AL*, Dzieciol M, Wagner M, **Schmitz-Esser S#**. 2019. Plasmids contribute to food processing environment-associated stress survival in three *Listeria monocytogenes* ST121, ST8, and ST5 strains. ***Int J Food Microbiol*.** 299:39-46. doi: 10.1016/j.ijfoodmicro.2019.03.016
(Approximate percentage contribution 25%)
SSE obtained funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Author ALN was trainee in SSE's program.
49. Lyte M, Daniels KM, **Schmitz-Esser S**. 2019. Fluoxetine-induced alteration of murine gut microbial community structure: evidence for a microbial endocrinology-based mechanism of action responsible for fluoxetine-induced side effects. ***PeerJ***. 7:e6199. doi: 10.7717/peerj.6199.
(Approximate percentage contribution 35%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
50. Li Q, **Schmitz-Esser S**, Loving CL, Gabler NK, Gould SA, Patience JF. 2019. Exogenous carbohydrases added to a starter diet reduced markers of systemic immune activation and decreased *Lactobacillus* in weaned pigs. ***J Anim Sci*.** 97(3):1242-1253. doi: 10.1093/jas/sky481
(Approximate percentage contribution 5%)
SSE was a collaborator on the project, contributed intellectually by providing training for author QL and by interpretation of data, and contributed to writing the manuscript.
51. Patzke K, Prananingrum P, Klemens PAW, Trentmann O, Martins Rodrigues C, Keller I, Fernie AR, Geigenberger P, Bölter B, Lehmann M, **Schmitz-Esser S**, Pommerrenig B, Haferkamp I, Neuhaus HE. 2019. The plastidic sugar transporter pSuT influences flowering and affects cold responses. ***Plant Physiol*.** 179(2):569-587. doi: 10.1104/pp.18.01036
(Approximate percentage contribution 5%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
52. Zhang W, Liu W, Hou R, Zhang L, **Schmitz-Esser S**, Sun H, Xie J, Zhang Y, Wang C, Li L, Yue B, Huang H, Wang H, Shen F, Zhang Z. 2018. Age-associated microbiome shows the giant panda lives on hemicelluloses, not on cellulose. ***ISME J*.** (5):1319-1328. doi: 10.1038/s41396-018-0051-y
(Approximate percentage contribution 10%)
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53. Muhterem-Uyar M, Ciolacu L, Wagner KH, Wagner M, **Schmitz-Esser S**, Stessl B. 2018. New aspects on *Listeria monocytogenes* ST5-ECVI predominance in a heavily contaminated cheese processing environment. ***Front Microbiol*.** 9:64. doi: 10.3389/fmicb.2018.00064

(Approximate percentage contribution 15%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation and by providing training for author MMU, and contributed to writing the manuscript. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.

54. Mann E, Wetzels SU, Wagner M, Zebeli Q, **Schmitz-Esser S#.** 2018. Metatranscriptome sequencing reveals insights into the gene expression and functional potential of rumen wall bacteria. ***Front Microbiol***. 9:43. doi: 10.3389/fmicb.2018.00043
(Approximate percentage contribution 25%)
SSE obtained funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
55. Quijada NM, Mann E, Wagner M, Rodríguez-Lázaro D, Hernández M, **Schmitz-Esser S#**. 2018. Autochthonous facility-specific microbiota dominates washed-rind Austrian hard cheese surfaces and its production environment. ***Int J Food Microbiol***. 267:54-61. doi: 10.1016/j.ijfoodmicro.2017.12.025
(Approximate percentage contribution 25%)
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(Approximate percentage contribution 10%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
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(Approximate percentage contribution 5%)

SSE was a collaborator on the project, contributed intellectually to data interpretation, and contributed to writing the manuscript. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.

60. Rychli K, Wagner EM, Ciolacu L, Zaiser A, Tasara T, Wagner M, **Schmitz-Esser S#**. 2017. Comparative genomics of human and non-human *Listeria monocytogenes* sequence type 121 strains. ***PLoS One***. 12(5):e0176857. doi: 10.1371/journal.pone.0176857
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(Approximate percentage contribution 10%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript. Author EM is a trainee in SSE's program. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
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(Approximate percentage contribution 5%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation and by providing training for authors AWA and EM, and contributed to writing the manuscript. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
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SSE obtained partial funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Authors KS and ES are trainees in SSE's program. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
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(Approximate percentage contribution 25%)
SSE obtained partial funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Author AM is a trainee in SSE's program. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.

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(Approximate percentage contribution 15%)
SSE obtained partial funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Author EM is a trainee in SSE's program. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
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(Approximate percentage contribution 15%)
SSE obtained funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Author EM is a trainee in SSE's program. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.
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SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
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(Approximate percentage contribution 15%)
SSE obtained funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Author ES is a trainee in SSE's program. This publication is partially based on experimental work performed at my previous position at the University of Veterinary Medicine in Vienna, Austria.

PEER-REVIEW JOURNAL ARTICLES PRIOR TO APPOINTMENT AT ISU (n=39)

*An **asterisk (*)** indicates trainees from my program prior to my appointment at ISU. A **pound sign (#)** next to my name indicates that I served as the corresponding author. SSE – Stephan Schmitz-Esser*

70. Mann E*, Pinior B, Wetzels SU, Metzler-Zebeli BU, Wagner M, **Schmitz-Esser S#**. 2015. The metabolically active bacterial microbiome of tonsils and mandibular lymph nodes of slaughter pigs. ***Front Microbiol***. 6:1362.
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(Approximate percentage contribution 5%)

SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.

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SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
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SSE obtained funding for the project, oversaw study design, data collection, writing the manuscript and responding to reviewer comments. Author EM is a trainee in SSE's program.
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(Approximate percentage contribution 50%)
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(Approximate percentage contribution 15%)
SSE was a collaborator on the project, contributed intellectually to study design, data analysis and interpretation, and contributed to writing the manuscript.
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(Approximate percentage contribution 5%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript. Author EM is a trainee in SSE's program
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(Approximate percentage contribution 10%)
SSE was a collaborator on the project, contributed intellectually to study design and data analysis and interpretation, and contributed to writing the manuscript. Authors EM and ES are trainees in SSE's program
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(Approximate percentage contribution 10%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript. Author EM is a trainee in SSE's program
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87. Müller A*, Rychli K, Muhterem-Uyar M, Zaiser A, Stessl B, Guinane CM, Cotter PD, Wagner M, **Schmitz-Esser S#**. 2013. Tn*6188* - a novel transposon in *Listeria monocytogenes* responsible for tolerance to benzalkonium chloride. ***PLoS One***. 8:e76835.
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SSE obtained partial funding for the project, contributed to study design, data collection and analysis, and writing the manuscript and responding to reviewer comments.
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SSE was a collaborator on the project, contributed intellectually by providing training for author FM, and contributed to writing the manuscript.
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SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
103. Rinke C, **Schmitz-Esser S**, Stoecker K, Nussbaumer AD, Molnár DA, Vanura K, Wagner M, Horn M, Ott J, Bright M. 2006. '*Candidatus* Thiobios zoothamnicoli', an ectosymbiotic bacterium covering the giant marine ciliate *Zoothamnium niveum*. ***Appl Environ Microbiol*.** 72: 2014-21.
(Approximate percentage contribution 15%)
SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
104. Collingro A, Poppert S, Heinz E, **Schmitz-Esser S**, Essig A, Schweikert M, Wagner M, Horn M. 2005. Recovery of an environmental chlamydia strain from activated sludge by co-cultivation with *Acanthamoeba* sp. ***Microbiology***, 151: 301-309.
(Approximate percentage contribution 5%)
SSE was a collaborator on the project, contributed intellectually to data analysis, and contributed to writing the manuscript.

105. Horn M, Collingro A, **Schmitz-Esser S**, Beier CL, Purkhold U, Fartmann B, Brandt P, Nyakatura GJ, Droege M, Frishman D, Rattei T, Mewes HW, Wagner M. 2004. Illuminating the evolutionary history of chlamydiae. ***Science***, 304:728-730.
(Approximate percentage contribution 5%)
SSE contributed to the analyses and intellectually to data analysis and interpretation, and contributed to writing the manuscript.

106. Haferkamp I, **Schmitz-Esser S**, Linka N, Urbany C, Collingro A, Wagner M, Horn M, Neuhaus HE. 2004. A candidate NAD^+ transporter in an intracellular bacterial symbiont related to chlamydiae. ***Nature***, 432: 622-625.
(Approximate percentage contribution 15%)
SSE contributed intellectually to data analysis and interpretation and to analyses, and contributed to writing the manuscript.

107. **Schmitz-Esser S**, Linka N, Collingro A, Beier CL, Neuhaus HE, Wagner M, Horn M. 2004. ATP/ADP translocases: a common feature of obligate intracellular amoebal symbionts related to chlamydiae and rickettsiae. ***J Bacteriol*.** 186:683-691.
(Approximate percentage contribution 25%)
SSE contributed to study design, data collection, analysis and interpretation, and writing the manuscript and responding to reviewer comments.

108. Schmid M., **Schmitz-Esser S**, Jetten M, Wagner M. 2001. 16S-23S rDNA intergenic spacer and 23S rDNA of anaerobic ammonium-oxidizing bacteria: implications for phylogeny and in situ detection. ***Environ Microbiol***. 3:450-459.
(Approximate percentage contribution 10%)
SSE was a collaborator on the project contributed to data analysis, and contributed to writing the manuscript.

INVITED BOOK CHAPTERS PRIOR TO APPOINTMENT AT ISU (n=3)

1. **Schmitz-Esser S**, Wagner M. 2014. Genome sequencing of *Listeria monocytogenes*. Methods Mol Biol. 1157:223-32. (Jordan K, Fox EM, Wagner M, ed.) Springer, New York.
(Approximate percentage contribution 80%)
SSE is the lead author and contributed to most of the writing of this book chapter.
2. Horn, M., A. Collingro, **S. Schmitz-Esser**, and M. Wagner. 2006. Environmental *Chlamydia* Genomics. In: *Chlamydia*: genomics and pathogenesis, pp. 25-44. (Bavoil PM, Wyrick PB, ed.). Horizon Scientific Press, Norfolk.
(Approximate percentage contribution 15%).
SSE was a collaborator and contributed to writing of the chapter.
3. Schmid MC, **Schmitz-Esser S**, Jetten M, Wagner M. 2001. The rDNA operon of anaerobic ammonium oxidizing bacteria: Implications for phylogeny and in situ detection In: Der Stickstoff im Wasser/Abwasser, pp. 7-19. (Metzger J W, ed.). Oldenbourg Industrieverlag GmbH, München.
(Approximate percentage contribution 10%)
SSE was a collaborator and contributed to writing of the chapter.

PEER-REVIEW EXTENSION PUBLICATIONS AT ISU (n=3)

1. Fries-Craft K., Anast J., **Schmitz-Esser S.**, Bobeck E. 2021. Late-cutting lipid-soluble alfalfa extract beneficially modulates the colon microbiota to protect mouse body weight during *Citrobacter rodentium* challenge. Iowa State University Animal Industry Report 17(1). doi: https://doi.org/10.31274/air.11911
(Approximate percentage contribution 10%)

SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.

2. Koltes, JE.; Poole, DH.; **Schmitz-Esser, S**; Zhao, J; Chewning, S; Hubbell, D III; and Serão, NVL. 2018. Development of new measurements and tools to mitigate fescue toxicosis in beef cattle. Iowa State University Animal Industry Report. 15(1). doi: https://doi.org/10.31274/ans_air-180814-462
   (Approximate percentage contribution 10%)
   SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.
3. Meyer, M; Koester, LR; **Schmitz-Esser, S**; Bobeck, EA. 2018. Determining presence of yolk sac and intestinal bacterial colonization in pre-hatch chicken embryos. Iowa State University Animal Industry Report. 15(1), doi: https://doi.org/10.31274/ans_air-180814-401
   (Approximate percentage contribution 10%)
   SSE was a collaborator on the project, contributed intellectually to data analysis and interpretation, and contributed to writing the manuscript.

OTHER PUBLICATIONS (*non-peer-reviewed*)

1. Tibbs-Cortes BW, Schultz DL, **Schmitz-Esser S**. 2023. Closed genome sequences of two *Listeria monocytogenes* ST121 strains. **Microbiol Resour Announc**. 12(10):e0075023. doi: 10.1128/MRA.00750-23.
2. Hashish A, Chaves M, Macedo NR, Sato Y, **Schmitz-Esser S,** Wilson D, El-Gazzar M. 2023. Complete genome sequences generated using hybrid Nanopore-Illumina assembly of two non-typical *Avibacterium paragallinarum* strains isolated from clinically normal chicken flocks. **Microbiol Resour Announc**. 12(10):e0012823. doi: 10.1128/MRA.00128-23.
3. Wasendorf C, Schultz DL, **Schmitz-Esser S**, Peters NT. 2022. Genome Sequences of Soft Rot-Causing *Pseudomonas* Isolates from Spinach. **Microbiol Resour Announc**. 11(9):e0070122. doi: 10.1128/mra.00701-22
4. Wasendorf C, Schultz DL, **Schmitz-Esser S**, Peters NT. 2022. Genome sequences of soft rot-causing *Pectobacterium* isolates from different vegetables. **Microbiol Resour Announc**. 11(1):e0106621. doi: 10.1128/mra.01066-21
5. **Schmitz-Esser S**, Gram L, Wagner M. 2015. Complete genome sequence of the persistent *Listeria monocytogenes* strain R479a. **Genome Announc**. 2015 Mar 19;3(2).
6. **Schmitz-Esser S**. Book Review: „Cheese and Microbes by Catherine W. Donnelly "The Quarterly Review of Biology, Vol. 90, No. 3 (September 2015), p. 346.

PATENTS (n=1)

1. Fries-Craft KA, Schmitz-Esser S, and Kraayenbrink EA. Provisional patent: ISURF # 04994 - 5th Cutting Chloroform Alfalfa Extract. Provisional patent applied for March 2020. KFC and EAK developed an alfalfa extract that improves immunity, alters immune cell profile, and alters microbiome (SSE). Full patent filed March 2021.

FUNDED PROJECTS (n=20)

Funded projects throughout career (2006 to present)

Total $ funded as **PI** and **co-PI** throughout career (2006 to present)	$8,226,014
Total $ funded as **PI** throughout career (2006 to present)	$1,814,743
Total $ funded as **co-PI** throughout career (2006 to present)	$6,411,271

Funded projects since appointment at ISU (2015 to present)

Total $ funded as **PI** at Iowa State University since appointment as Associate Professor (2015 to present)	$1,002,743
Total $ funded as **co-PI** at Iowa State University since appointment as Associate Professor (2015 to present)	$6,621,504

RESEARCH GRANTS (n=15)

COMPETITIVE PUBLIC AGENCY GRANTS (n=4)

1. ***US Department of Agriculture***: Foundational (AFRI-1 Diseases of Agricultural Animals Program Area Priority Code – A1221): "Mechanistically connecting the immune system and microbiome to beneficial effects of anti-IL-10 antibody during coccidiosis in broilers." **Role:** co-PI (PI: Elizabeth Bobeck). April 2021 to March 2024. $499,982
   (Contribution: 15%)
   SSE is a co-PI, he contributed intellectually to development of the grant and contributed to writing. SSE will contribute his microbiome expertise for this grant to perform characterizations of chicken microbial community composition and activity.
2. ***National Institutes of Health (NIH)***: "Developing second generation SCID pig models: filling the gaps to improve translation of therapeutics in regenerative medicine". **Role:** Co-Investigator (PI: Chris Tuggle, co-Investigators: J. Ross, J. Cunnick, A. Ahrens, S. Schmitz-Esser, M. Sauer, J. Dekkers). June 2020 to May 2024. $3,001,759
   (Contribution: 7%)
   SSE is a co-PI, he partly contributed to writing of the grant. SSE will contribute his microbiome and microbiology expertise for this grant to perform characterizations of SCID pig microbial community composition and to identify possible probiotic bacteria to increase SCID pig health.
3. ***National Science Foundation (NSF)***: Division of Integrative Organismal Systems Core Programs, Program Solicitation NSF 18-586: "Collaborative Research: The saboteur's tools: mechanisms for host reproductive manipulation by the bacterial arthropod endosymbiont *Cardinium hertigii*". **Role:** co-PI (co-P-Investigators: M. Hunter, M. Kleiner). June 2020 to May 2024. $359,952 *(Contribution: 100%*)*
   **This is a collaborative project which consists of three independent projects at three different labs and three different universities in the US.*

SSE is a co-PI, he contributed intellectually to development of the grant and contributed to writing. SSE will contribute his microbiology expertise in genomics and transcriptomics for this grant to identify proteins used by the insect symbiont Cardinium to manipulate its insect host reproduction.

4. ***US Department of Agriculture***: Foundational (AFRI-1 Improving Food Safety Program Area Priority Code – A1331): "Illuminating the impact of plasmids to stress survival of *Listeria monocytogenes*." **Role:** PI. June 2019 to May 2023. $365,154
   (Contribution: 100%)
   SSE is the PI, he developed and wrote the grant. SSE will contribute his microbiology and food safety expertise for this grant to determine the role of plasmids to Listeria monocytogenes survival in food production plants.

COMMODITY COMPETITIVE GRANTS (n=2)

1. ***National Pork Board***: "An integrated approach to improve whole herd pig survivability". **Role:** Co-Investigator. (PI: Jason Ross, co-Investigators: N. Gabler, A. Johnson, A. Keating, J. Patience, S. Schmitz-Esser; K. Stalder, L. Schulz, D. Linhares, C. Rademacher, K. Schwartz, S. Millman, A. Chipman). November 2018 to November 2023. $1,999,772
   (Contribution: 7%)
   SSE is a co-I, he partly contributed to writing of the grant. SSE will contribute his microbiome expertise for this grant to perform characterizations of pig microbial community composition.
2. ***Iowa Sheep and Wool Promotion Board***: "Can vaginal microbiota predict fertility of ewes?" **Role**: co-PI (PI: Curtis Youngs). August 2018 to May 2020. $4,250
   (Contribution: 50%)
   SSE was co-PI, he contributed to development and writing of the grant. SSE contributed his microbiome expertise for this grant to perform characterizations of ewe vaginal microbial community composition.

INDUSTRY GRANTS (n=6)

1. **Oxbow Animal Health**, Omaha, NE: "Product testing agreement: Rabbit microbiome evaluation". **Role**: PI. March 15, 2022 to November 15, 2022. $28,767
   (Contribution: 100%)
2. **Kemin Industries**, Des Moines, IA: "Methane mitigation in dairy cattle". **Role**: PI. January 15, 2022 to August 31, 2024. $181,466
   (Contribution: 100%)
3. ***Zoetis:*** "Evaluation of Pen-Side Diagnostic Tools to Characterize Sow Biological Conditions Contributing to Agalactia". **Role:** co-PI (PI: Jason Ross, co-P-Investigators: L. Baumgard, A. Keating, L. Greiner). September 2020 to May 2022. $142,112
   (Contribution: 20%)
   SSE is a co-PI, he contributed intellectually to development of the grant and contributed to writing. SSE will contribute his microbiome expertise for this grant to perform characterizations of sow reproductive tract microbial community composition.
4. ***Pancosma***, Geneva, Switzerland: "Ability of Sucram to mediate non-nutritive microbial endocrinology based signaling under normal and stress conditions in the rumen wall the pig GI tract". **Role**: co-PI (PI: Mark Lyte). July 2018 to June 2020. $306,000
   (Contribution: 50%)
   SSE was co-PI, he contributed intellectually to development of the grant and contributed to writing. SSE contributed his microbiome expertise for this grant to perform characterizations of dairy cattle microbial community composition and activity.
5. ***Egg Industry Center Research Grant Program***: "Characterizing intestinal health, bacterial communities, and their interaction between caged and cage-free housing in commercial layer"., **role**: co-PI (PI: Dawn Koltes). August 2018 to July 2019. $37,396

(Contribution: 25%)
SSE was co-PI, he contributed to development and writing of the grant. SSE contributed his microbiome expertise for this grant to perform characterizations of chicken microbial community composition.

6. ***Pancosma***, Geneva, Switzerland: "Non-nutritive microbial signaling at the rumen wall" **role**: co-PI (PI: Mark Lyte). July 1, 2016 to June 30, 2018. $260,000
(Contribution: 50%)
SSE was co-PI, he contributed intellectually to development of the grant and contributed to writing. SSE contributed his microbiome expertise for this grant to perform characterizations of dairy cattle microbial community composition and activity.

GIFTS (n=1)

1. ***Zoetis***: "Understanding Mastitis, Metritis, and Agalactica in sows". **Role:** co-PI (PI: Jason Ross, co-PIs: L. Baumgard, A. Keating, L. Greiner). $135,000
(Contribution: 20%)

ISU INTERNAL GRANTS (n=3)

1. ***Iowa State University Vice President for Research - Biobased Products Technology demonstration: "****Evaluating the potential of Selenomonas as a probiotic to reduce methane production in dairy cattle".* **Role:** PI (co-PI: Jon Rubach, Kemin Industries). January 2024 to December 2024. $ 59,904
(Contribution: 80%).
SSE is the PI, he will contribute his expertise in microbiology to this project.
2. ***Iowa State University Nutritional Sciences Council (NSC) W.S. Martin Program:*** "Utilizing the gene responsible for anaerobic cholesterol degradation in *Eubacterium coprostanoligenes* ATCC 51222 for the development of a probiotic to decrease cholesterol concentration in human food and/or in the human intestine". **Role:** PI (co-PI: Donald Beitz). July 2021 to June 2022. $7,500
(Contribution: 80%).
SSE is the PI, he will contribute his expertise in microbiology to this project.
3. ***Iowa State University*** Department of Animal Science: "Dissecting the beneficial influence of alfalfa on host microbiota and immune function". **Role**: co-PI (PI: E. Bobeck). December 2017 to December 2018. $25,000
(Contribution: 50%)
SSE was co-PI, he contributed to development and writing of the grant. SSE contributed his microbiome expertise for this grant to perform characterizations of mouse microbial community composition.

Funded projects prior to appointment at ISU

Total $ funded as **PI** at the University of Veterinary Medicine Vienna and University of Vienna, Austria (2006 to 2015)	$812,000

COMPETITIVE PUBLIC AGENCY GRANTS (n=3)

1. ***Austrian Science Fund FWF, National Science Foundation NSF***: 2013 to 2016. Joint International project: "Genetic and cytogenetic bases of *Cardinium*-caused cytoplasmic incompatibility". **Role**: co-PI (PI: M. Hunter). €174,000 (approx. $210,000)
(Contribution: 100%; SSE was the PI for the part of the project funded by the Austrian Science Fund FWF)

This international project aimed at identifying mechanisms that the obligate intracellular insect symbiont Cardinium hertigii uses to manipulate the reproduction of its insect host.

2. ***Austrian Science Fund FWF:*** 2010 to 2013: "*Amoebophilus asiaticus* mechanisms for host cell interaction". **Role**: PI €302,000 (approx. $365,000)
   (Contribution: 100%)
   This project aimed to identify mechanisms for host cell interaction of the obligate intracellular amoeba symbiont *Amoebophilus asiaticus*.
3. ***Austrian Science Fund FWF:*** 2006 to 2008: "The evolution of symbiosis in the *Bacteroidetes*". **Role**: PI. €136,000 (approx. $165,000)
   (Contribution: 100%)
   This project aimed to determine the genome sequences of the obligate intracellular amoeba symbiont *Amoebophilus asiaticus and the insect symbiont Cardinium hertigii.*

UNIVERSITY OF VETERINARY MEDICINE VIENNA INTERNAL GRANTS (n=1)

1. ***University of Veterinary Medicine Vienna***, Austria 2010 to 2014. "Ecology of Food-borne pathogens". **Role**: PI. €60,000 (approx. $72,000)
   (Contribution: 100%)
   This project aimed to identify mechanisms for survival in food and food-production environments by Listeria monocytogenes.

INVITED PRESENTATIONS (n=18)

Since appointment at ISU (n=12)

International

1. "Insights into two different research areas: 1.) Composition and function of the rumen wall microbiota and potential contributions to animal health and performance and 2.) Characterization of *Listeria monocytogenes* plasmids." Division of Microbial Ecology, University of Vienna, Austria. September 2023. (*Online presentation*)
2. "The rumen wall microbiota: composition, function and their potential contributions to animal health and performance". 30th Plant and Animal Genome Conference, San Diego, California, January, 2023.
3. "Mining the ewe's vaginal microbiota for bacterial phylotypes possibly associated with sheep reproductive performance". 3rd World Congress on Sheep, October 2020 (*online conference*)
4. "The rumen wall microbiota: Gatekeepers between the rumen content and the host tissue and their potential contributions to rumen wall integrity and animal health and performance" 66th International Congress of Meat Science and Technology and 73rd AMSA Reciprocal Meat Conference, August 2020 (*online conference*)
5. "Analyzing the contribution of the giant panda's microbiota to nitrogen metabolism and reproductive productivity". 2017 Conference of the Chinese Committee of Breeding Techniques for Giant Panda, Chengdu, China, November 2017.

National

6. "A multi-omic approach reveals mechanistic and genetic differences among Cardinium hertigii strains causing different reproductive manipulation phenotypes". Departmental Seminar, Department of Plant Biology and Microbiology, North Carolina State University, Raleigh, NC. December 2022.
7. "Composition and in situ gene expression of rumen wall microbial communities", American Society for Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest

Meeting, March 2018, Omaha, NE, USA. Journal of Animal Science, Vol: 96 Pages: 14-15 Supplement: 2 Meeting Abstract: 27

8. "Microbiome research in livestock" Purina Land O'Lakes, Gray Summit, MO, December 2018.

Regional

9. "Insights into two different research areas: 1.) Composition and function of the rumen wall microbiota and potential contributions to animal health and performance and 2.) Characterization of *Listeria monocytogenes* plasmids." 2023. USDA-ARS NADC, Ames, IA, September 2023.
10. "Gut health and microbiota – where are we today?", 2019 Turkey & Broiler Health Management School, Ames, IA, May 2019
11. "Microbiome research in livestock" PMI Nutritional Additives, Ames, IA, January 2018.
12. "Microbiome research in farm animals" Kemin Industries, Des Moines, IA, July 2017.

Prior to appointment at ISU (n=6)

International

13. "Tn*6188* - a novel transposon in *Listeria monocytogenes* responsible for tolerance to benzalkonium chloride" Annual Meeting of the Austrian Society for Hygiene, Microbiology and Preventive Medicine (ÖGHMP). June 2014, Bad Ischl, Austria.
14. "Basics in microbial community analysis: methods and software" 2nd Annual Meeting of the EU project "PROMISE" and 1st Stakeholder Meeting with Irish food industry, November 2013, Dublin, Ireland.
15. "Persistence of *Listeria monocytogenes* – a genomic approach". March 2012, TEAGSC (The Agriculture and Food Development Authority), Moorepark Food Research Centre, Fermoy, Ireland.
16. "Bacterial symbionts of amoebae: Model systems for studying host cell interaction mechanisms of intracellular bacteria", Max Planck Institute for Marine Microbiology, February 2011, Bremen, Germany.
17. "Nucleotide and other transport proteins in obligate intracellular bacteria - connecting host and symbiont metabolism", University of Kaiserslautern, July 2009, Kaiserslautern, Germany.

Regional

18. "Bacterial symbionts of amoebae: Model systems for studying host cell interaction mechanisms of intracellular bacteria" Vienna graduate school of population genetics: October 2010, Vienna, Austria.

ORAL PRESENTATIONS

(n=18, all presented by SSE)

Since appointment at ISU (n=4)

1. **Schmitz-Esser S**, Wetzels SU, Zebeli Q, Wagner M, Mann E. (2017) "Metatranscriptome sequencing reveals insights into the gene expression of the bovine epimural bacterial community". Annual Meeting of the American Dairy Science Association (ADSA), June 25-28, 2017, Pittsburgh, PA, USA.
2. **Schmitz-Esser S,** Nischler E, Dzieciol M, Mann E, Wagner M. (2017) "Genomics of *Advenella*, *Psychrobacter* and *Psychroflexus* strains from the surface of Austrian artisanal hard cheeses: insights into ripening and flavor generation". Annual Meeting of the American Dairy Science Association (ADSA), June 25-28, 2017, Pittsburgh, PA, USA.

3. **Schmitz-Esser S.** (2017) "Analyzing the contribution of the giant panda's microbiota to nitrogen metabolism and reproductive productivity". Annual Conference of the Chinese Committee of Breeding Techniques for Giant Pandas, November 6-9, 2017, Chengdu, China.
4. Mann E, Stouthamer CM, Kelly SE, Hunter MS, **Schmitz-Esser S.** (2016) "Transcriptome sequencing reveals insights into the genetic basis of *Cardinium hertigii*-caused cytoplasmic incompatibility". International Symposium on Microbial Ecology ISME 16, August 21-26, 2016, Montreal, Canada.

Prior to appointment at ISU (n=14)

5. Dzieciol M, Schornsteiner E, Muhterem-Uyar M, Stessl B, Wagner M, **Schmitz-Esser S**. (2014) "Composition of the microbiome in water and biofilms of *L. monocytogenes* positive drains". Joint conference PROMISE and BacFood Net. November 17-19, 2014, Vienna, Austria.
6. **Schmitz-Esser S**, Müller A, Pricope L; Zaiser A, Rychli K, Wagner M. (2013) "Comparative genome analyses of persistent *Listeria monocytogenes* strains". ISOPOL XVIII - International Symposium on Problems of Listeriosis; September 19-22, 2013; Goa, India.
7. **Schmitz-Esser S**, Müller A, Muhterem-Uyar M, Zaiser A, Steßl B, Rychli K, Wagner M. (2013) "Tn*6188* - a novel transposon in *Listeria monocytogenes* conferring tolerance to benzalkonium chloride". 54-55.-Joint annual meeting of the Association for General and Applied Microbiology (VAAM) and the Royal Dutch Society of Microbiology (KNVM). March 10-13, 2013; Bremen, Germany.
8. **Schmitz-Esser S**, Müller A, Pricope L, Zaiser A, Rychli K, Wagner M. (2012) "Comparative genome analyses of persistent *Listeria monocytogenes* strains". FoodMicro 2012; September 3-7, 2012; Istanbul, Turkey.
9. **Schmitz-Esser S**, Müller A, Allerberger F, Wagner M. (2012) "Comparative genome analyses of *Listeria monocytogenes* outbreak strains". 33rd Annual Meeting of the Austrian Society of Hygiene, Microbiology and Preventive Medicine (ÖGHMP); May 22-24, 2012; Salzburg, Austria.
10. **Schmitz-Esser S**, Penz T, Spang A, Wagner M, Horn M. (2010) "Identification and characterization of IS elements in the genome of the obligate intracellular amoeba symbiont '*Candidatus* Amoebophilus asiaticus'" 13th International Symposium on Microbial Ecology ISME13, August 2010, Seattle, WA, USA.
11. **Schmitz-Esser S**, Walcher M, Horn A, Horn M, Wagner M, Wagner M. (2010) "Interaction of *Listeria monocytogenes* with free-living amoebae". 32nd Annual Meeting of the Austrian Society of Hygiene, Microbiology and Preventive Medicine (ÖGHMP), May 2010, Vienna, Austria.
12. **Schmitz-Esser S**, Tischler P, Arnold R, Montanaro J, Wagner M, Rattei T, Horn M. (2009) „The genome of the amoeba symbiont '*Candidatus* Amoebophilus asiaticus' reveals common mechanisms for host cell interaction among amoeba-associated bacteria". 6th congress of the International Symbiosis Society (ISS), August 2009, Madison, WI, USA.
13. **Schmitz-Esser S**, Tischler P, Montanaro J, Wagner M, Rattei T, Horn M. (2008) "Whole genome analysis of the symbiont '*Candidatus* Amoebophilus asiaticus' reveals a unique adaptation to eukaryotic host cells". 12th International Symposium on Microbial Ecology ISME12, August 2008 Cairns, Australia.
14. **Schmitz-Esser S**, Tischler P, Montanaro J, Wagner M, Rattei T, Horn M. (2008) "Whole genome analysis of the symbiont '*Candidatus* Amoebophilus asiaticus' reveals a unique adaptation to eukaryotic host cells". 5th International Wolbachia Conference, June 2008, Kolymbari, Greece.
15. **Schmitz-Esser S**, Haferkamp I, Wagner M, Neigel N, Horn M, Neuhaus HE. (2006) „Tapping the nucleotide pool of the host: novel nucleotide carrier proteins of *Protochlamydia amoebophila* UWE25". 4th German Chlamydia Workshop, March 2006, Düsseldorf, Germany.
16. **Schmitz-Esser S**, Haferkamp I, Linka N, Collingro A, Urbany C, Wagner M, Neuhaus HE, Horn M. (2004) „Characterization of nucleotide transport proteins of the environmental chlamydia UWE25". 5th Meeting of the European society for chlamydia research (ESCR), September 2004, Budapest, Hungary.

17. **Schmitz-Esser S**, Heuer D, Collingro A, Szczepek AJ, Wagner M, Horn M. (2004) „Molecular mechanisms of interaction between chlamydia-related symbionts and their amoebal hosts". 2nd German Chlamydia Workshop, March 2004, Berlin, Germany.
18. S**chmitz-Esser S**, Heuer D, Collingro A, Szczepek AJ, Meyer TF, Wagner M, Horn M. (2003) „Characterization of an ATP/ADP translocase and a chlamydial virulence factor in the environmental chlamydia isolate UWE25". 1st German Chlamydia Workshop, March 2003, Berlin, Germany.

ABSTRACTS AND MEETING PAPERS (n=93)

(this list is non-redundant with the lists above)

Since appointment at ISU (n=42)

1. Studer JM, Kiefer ZE, Koester LR, Johnson EM, Baumgard LH, **Schmitz-Esser S**, Greiner LL, Keating AF, Farkas A, Galina L, Vonnahme KA, Ross JW. (2023) "Characterization of the metabolic conditions contributing to agalactia in sows". 54th AASV Meeting, Aurora, CO, USA.
2. Studer JM, Kiefer ZE, Koester LR, Johnson EM, Baumgard LH, **Schmitz-Esser S**, Greiner LL, Keating AF, Farkas A, Galina L, Vonnahme KA, Ross JW. (2023) "Investigation into the serum metabolome and identification of biomarkers for early detection of postpartum Dysgalactia Syndrome in sows" American Society of Animal Science (ASAS) Annual Midwest Meeting, March 12-15, 2023, Madison, WI, USA. Journal of Animal Science, Volume 101, Issue Supplement_2, November 2023, Pages 197–198, Meeting Abstract: 104
3. Hashish A, Chaves M, Macedo N, Sato Y, **Schmitz-Esser S**, Wilson D, El-Gazzar M. (2023). "Complete genome sequences of two non-typical *Avibacterium paragallinarum* strains isolated from clinically normal chicken flocks". 2023 AAAP Annual Meeting, Jacksonville, FL, June 2023.
4. Hashish A, Sato Y, **Schmitz-Esser S**, Macedo N, El-Gazzar M, Wilson D. (2022). "A peculiar *Avibacterium paragallinarum* infection in layers with complete absence of any clinical presentation of Infectious Coryza". 2022 AAAP Annual Meeting, Philadelphia, PA, August 2022.
5. Schultz DL, Stouthamer CM, Mathieson OL, Vintila S, Doremus MR, Kleiner M, Hunter MS, **Schmitz-Esser S**. (2022) "A multi-omic approach reveals mechanistic and genetic differences among *Cardinium hertigii* strains causing different reproductive manipulation phenotypes". 18th Meeting of the International Society of Microbial Ecology (ISME), Lausanne, Switzerland, August 2022.
6. Anderson C, **Schmitz-Esser S**. (2022) "Differential gene expression of the bovine rumen epithelial microbiota during a Sub-Acute Ruminal Acidosis challenge". 18th Meeting of the International Society of Microbial Ecology (ISME), Lausanne, Switzerland, August 2022.
7. Koester LR, Kiefer ZE, Studer JM, Johnson EM, Baumgard LH, Greiner LL, Keating AF, Farkas A, Galina Pantoja L, Vonnahme KA, Ross JW, **Schmitz-Esser S**. (2022) "Correlating microbial community membership of cervical fluid, vagina and feces in post-partum sows". American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 13-16, 2022, Omaha, NE, USA. Journal of Animal Science, Vol: 100, Issue: Supplement_2, May 2022, Page 87. Meeting Abstract: 184.
8. Studer JM, Kiefer ZE, Koester LR, Johnson EM, Baumgard LH, Schmitz-Esser S, Greiner LL, Keating AF, Farkas A, Galina Pantoja L, Vonnahme KA, Ross JW. (2022) "Circulating biomarkers and leukocyte profiles in agalactic sows". American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 13-16, 2022, Omaha, NE, USA. Journal of Animal Science, Vol: 100, Issue: Supplement_2, May 2022, Page 88-89. Meeting Abstract: 183.
9. Kiefer ZE, Koester LR, Studer JM, Mainquist-Whigham C, **Schmitz-Esser S**, Ross JW. (2022) „Evaluation of the fecal microbiota in commercial sows with variable risk for pelvic organ prolapse during late gestation". American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 13-16, 2022, Omaha, NE, USA. Journal of Animal Science, Vol: 100, Issue: Supplement_2, May 2022, Page 89. Meeting Abstract: 181.

10. Anderson CJ, **Schmitz-Esser S**. (2022) „Differential gene expression of the bovine rumen epithelial microbiota during a sub-acute ruminal acidosis (SARA) challenge“. American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 13-16, 2022, Omaha, NE, USA. Journal of Animal Science, Vol: 100, Issue: Supplement_2, May 2022, Page 12. Meeting Abstract: 41.
11. Greiner LL, Humphrey DC, Holland S, Anderson CJ, **Schmitz-Esser S**. (2022) „The validation of the existence of the entero-mammary pathway and the assessment of the differences of the pathway between gilts and sows“. American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 13-16, 2022, Omaha, NE, USA. Journal of Animal Science, Vol: 100, Issue: Supplement_2, May 2022, Page 88. Meeting Abstract: 185.
12. Cortes B, Seggerman FM, Stroud M, **Schmitz-Esser S**. (2021) „Preliminary analysis of the role of the noncoding RNA Rli47 in the *Listeria monocytogenes* response to lactic acid stress”. Technical presentation, IAFP (International Association for Food Protection) Annual meeting. July 18-21, 2021, Phoenix, AZ, USA.
13. Anast JM, **Schmitz-Esser S**. (2019) “Transcriptome sequencing of *Listeria monocytogenes* during co-cultivation with cheese rind bacteria reveals a possible contribution of the non-coding RNA rli47 to competitive fitness and global stress response”, International Symposium on Problems of Listeria and Listeriosis (ISOPOL) September 24-27, 2019, Toronto, Canada.
14. Anast JM, **Schmitz-Esser S**. (2019) “Transcriptome sequencing of *Listeria monocytogenes* during co-cultivation with cheese rind bacteria”, Technical presentation, IAFP (International Association for Food Protection) Annual meeting. July 21-24, 2019, Louisville, KY, USA.
15. Kiefer ZE, Chipman AL, Studer JM, Koester LR, Showman L, Keating AF, **Schmitz-Esser S**, Ross JW (2019). “Identification of putative factors associated with pelvic organ prolapse in sows during late gestation”. 52nd Annual Meeting Society for the Study of Reproduction, July 18-21, 2019, San Jose, CA, USA.
16. Koester LR, Allen HK, Bravo D, Rasmussen S, Lyte M, **Schmitz-Esser S**. (2019) “Evidence for stratification of rumen wall microbial communities revealed by 16S rRNA based amplicon sequencing“. American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 11-13, 2019, Omaha, NE, USA. Journal of Animal Science, Vol: 97 Pages: 226-226 Supplement: 2 Meeting Abstract: PSII-16
17. Sanglard LP, **Schmitz-Esser S**, Gray KA, Linhares DCL, Yeoman CJ, Dekkers JCM, Niederwerder MC, Serão NVL. (2019) “Relationship between host-genetics and the vaginal microbiome in commercial gilts”. American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 11-13, 2019, Omaha, NE, USA. Journal of Animal Science, Vol: 97 Pages: 43-44 Supplement: 3 Meeting Abstract: 219
18. Fries-Craft K, Anast JM, **Schmitz-Esser S**, Bobeck EA. (2019) “Responses to alfalfa supplementation in mice”. American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 11-13, 2019, Omaha, NE, USA. Journal of Animal Science, Vol: 97 Pages: 45-45 Supplement: 2 Meeting Abstract: 77
19. Li QY, Gabler NK, Burrough ER, Loving CL, **Schmitz-Esser S**, Patience JF, Peng XY (2019). “Young Scholar Presentation: Can exogenous carbohydrase supplementation to higher-fiber diets improve gut function, microbiota, and growth performance of weaned pigs?”. American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 11-13, 2019, Omaha, NE, USA. Journal of Animal Science. Volume: 97 Pages: 76-76 Supplement: 2 Meeting Abstract: 130
20. Dzieciol M, **Schmitz-Esser S**, Glanz L, Zwirzitz B, Wagner M, Wetzels SU, Mann, E (2019). “Fungal community in Austrian Vorarlberger Bergkäse during ripening“. FEMS (Federation of European Microbiological Societies), 8th Congress of European Microbiologists, July 9-11, Glasgow, United Kingdom.
21. Chipman A, Rademacher CJ, Johnson C, Stalder KJ, Johnson AK, Keating AF, Patience JF, Gabler NK, Linhares D, Schwartz K, Millman ST, Studer J, Kiefer Z, **Schmitz-Esser S**, Silva G, Ross JW (2018) “Pelvic Organ Prolapse: An industry-wide collaboration to identify putative contributing factors”. September 15-18, 2018, Minneapolis, MN, USA.

22. Wagner M, Wetzels SU, Zebeli Q, Metzler-Zebeli B, **Schmitz-Esser S**, Mann E (2018). “Insights into the microbiota composition and metatranscriptome at the gut-body interface”. 69th Annual Meeting of the European Federation of Animal Science (EAAP 2018), August 27-31, 2018, Dubrovnik, Croatia.
23. Zwirzitz B, Pinior B, Metzler-Zebeli B, Handler M, Gense K, Knecht C, Ladinig A, Dzieciol M, Wetzels SU, Wagner M, **Schmitz-Esser S**, Mann E (2018). “Microbiota of the gut-lymph node axis: Depletion of mucosa-associated segmented filamentous bacteria and enrichment of Methanobrevibacter by Colistin sulfate and Linco-Spectin in pigs”. 10th ÖGMBT Annual Meeting - Ten years life, science & molecules, September 17-20, 2018, Vienna, Austria.
24. Zwirzitz B, Pinior B, Metzler-Zebeli B, Handler M, Gense K, Knecht C, Ladinig A, Dzieciol M, Wetzels SU, Wagner M, **Schmitz-Esser S**, Mann E (2018). “Effects of in-feed antibiotics on fecal, ileal, and ileocecal lymph node-associated microbiota in pigs”. 17th International Symposium on Microbial Ecology, August 12-17, 2018, Leipzig, Germany.
25. Wetzels SU, Mann E, Zebeli Q, Wagner M, **Schmitz-Esser S** (2018). “The metatranscriptome of the bovine rumen wall bacterial community”. 17th International Symposium on Microbial Ecology (ISME), August 13-17, 2018, Leipzig, Germany.
26. Koester LR, Poole DH, Serao NVL, **Schmitz-Esser S**. (2018) “Effect of Genetic Response to Endophyte-Infected Fescue on Beef Cattle Gastrointestinal Tract Microbiota“. American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 12-14, 2018, Omaha, NE, USA. Journal of Animal Science, Vol: 96 Pages: 12-13 Supplement: 2 Meeting Abstract: 23
27. Li QY, **Schmitz-Esser S**, Patience JF. (2018) “Impact of Fiber-Degrading Enzymes on Microbial Composition and NSP Metabolites in Nursery Pigs Fed a Higher Fiber Diet”. American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 12-14, 2018, Omaha, NE, USA. Journal of Animal Science, Vol: 96 Pages: 161-162 Supplement: 2 Meeting Abstract: 300
28. Koester LR, Allen HK, Bravo D, Rasmussen S, Lyte M, **Schmitz-Esser S**. (2018) “Evidence for stratification of rumen wall microbial communities revealed by 16S rRNA based amplicon sequencing“. American Society of Animal Science (ASAS) and American Dairy Science Association (ADSA) Annual Midwest Meeting, March 12-14, 2018, Omaha, NE, USA. Journal of Animal Science, Vol: 96 Pages: 207-207 Supplement: 2 Meeting Abstract: 385
29. Naditz AL, Dhar D, **Schmitz-Esser S** (2018). “Elucidating the contribution of *Listeria monocytogenes* plasmids to survival in dairy foods and production facilities“. American Dairy Science Association (ADSA) Annual Meeting, June 24-27, 2018, Knoxville, TN, USA. J. Dairy Sci. Vol. 101, Suppl. 2 Dairy Foods III: Microbiology and Health. Abstract: 397.
30. Anast JM, **Schmitz-Esser S** (2018). "Genome analysis of *Brevibacterium* strains isolated from Austrian hard cheese rinds reveals two novel *Brevibacterium* species and putative histamine catabolism pathway genes". ASM North Central Branch Meeting, September 2018, Mankato, MN, USA.
31. Quijada NM, Mann E, Wagner M, Rodríguez-Lázaro D, Hernández M, **Schmitz-Esser S** (2018). “Austrian hard cheese production: the impact of autochthonous facility-specific microbiota”. FoodMicro 2018 - 26th International ICFMH Conference, September 3-6, 2018, Berlin, Germany.
32. Wetzels SU, Dzieciol M, Wagner M, **Schmitz-Esser S**, Mann E (2017). “Survey of the metabolically active bacterial microbiome of lymph nodes in slaughter pigs, confirmed by cultivation of viable bacteria and amplicon pyrosequencing”. FEMS 7th Congress of European Microbiologists (Federation of European Microbiological Society), July 9-13, 2017, Valencia, Spain.
33. Wetzels SU, Mann E, Zebeli Q, Wagner M, **Schmitz-Esser S** (2017). “Metatranscriptome sequencing reveals shifts in the bovine epimural bacterial community composition which are compensated on a functional level”. FEMS 7th Congress of European Microbiologists (Federation of European Microbiological Society), July 9-13, 2017, Valencia, Spain.
34. Wetzels SU, Mann E, Wagner M, Zebeli Q, **Schmitz-Esser S** (2017). “The metatranscriptome of the bovine ruminal epimural bacteria”. 6th Symposium "Animal Gut Health": Microbiome - The Hidden

Player with Great Potentials for Improving Health and Performance, December 6, 2017, Vienna, Austria.

35. Wetzels SU, Petri RM, Pourazad P, Qumar M, Metzler-Zebeli B, Wagner M, **Schmitz-Esser S**, Zebeli Q (2017). "Recovery of the bovine epimural bacterial microbiome from either a continuous or a transient SARA challenge". 71st Conference of the Society of Nutrition Physiology, March 14-16, 2017, Göttingen, Germany.
36. Wetzels SU, Petri RM, Pourazad P, Qumar M, Metzler-Zebeli BU, Wagner M, **Schmitz-Esser S**, Zebeli Q (2017). "Illumina MiSeq sequencing reveals effects of a continuous and a transient SARA challenge, followed by a long recovery period, on the bovine epimural bacterial microbiome". -71st Conference, Society of Nutrition Physiology, March 14-16, 2017, Göttingen, Germany.
37. Wetzels SU, Petri RM, Pourazad P, Qumar M, Metzler-Zebeli BU, Wagner M, **Schmitz-Esser S**, Zebeli, Q (2016): "Illumina MiSeq sequencing reveals effects of a continuous and a transient SARA challenge on the bovine epimural bacterial microbiome 6th Symposium "Animal Gut Health": Empowering Rumen and Gut Health to improve Health and Productivity on Farm Animals, December 12-12, 2016, Vienna, Austria.
38. Nischler E, Dzieciol M, Mann E, Wagner M, **Schmitz-Esser S** (2016). "Whole genome sequencing and qPCR analysis of *Advenella*, *Psychrobacter* and *Psychroflexus* phylotypes for Austrian raw milk hard cheese rinds during ripening". 68th Annual Meeting of the Germany Society for Hygiene and Microbiology, September, 11-14, 2016, Ulm, Germany.
39. Wetzels SU, Mann E, Pinior B, Metzler-Zebeli B, Wagner M, **Schmitz-Esser S** (2016). "Psychrophile spoilers dominate the bacterial microbiome in musculature samples of slaughter pigs". 35. Jahrestagung der Österreichischen Gesellschaft für Hygiene, Mikrobiologie und Präventivmedizin, May 30 - June 2, Zell am See, Austria.
40. Wetzels SU, Mann E, Pourazad P, Qumar M, Pinior B, Metzler-Zebeli B, Wagner M, Klevenhusen F, Zebeli Q, **Schmitz-Esser S** (2016). "Dynamic microbial changes in the rumen of dairy cows during a long-term subacute ruminal acidosis challenge". -35. Jahrestagung der Österreichischen Gesellschaft für Hygiene, Mikrobiologie und Präventivmedizin, May 30 - June 2, 2016, Zell Am See, Austria.
41. Rychli K, Müller A, Harter E, Wagner EM, Zaiser A, Wagner M, **Schmitz-Esser S** (2016). "*Listeria monocytogenes* of sequence type 121 harbor specific adaptations supporting persistence in food production plants". EMBO Conference: Problems of Listeriosis ISOPOL XIX, June 14-17, 2016, Paris, France.
42. Hund A, Dzieciol M, **Schmitz-Esser S**, Wittek T (2016): "Bacterial communities associated with healthy abomasal mucosa and ulcers in cattle". 452--World Buiatrics Congress, July, 3-8, 2016, Dublin, Ireland. IN: Doherty, M [Ed.]: Proceedings of the World Buiatrics Congress 2016, (ISBN: 978-1-5262-0432-5)

Prior to appointment at ISU (n=51)

43. Mann E, Pinior B, Wetzels SU, Metzler-Zebeli BU, Wagner M, **Schmitz-Esser S** (2015). "RNA-based amplicon sequencing for investigating the living part of the bacterial microbiome in porcine lymphatic tissues". 5th Symposium of Animal Gut Health, November 12, 2015, Vienna, Austria.
44. **Schmitz-Esser S**, Dzieciol M, Hund A, Wittek T (2015). "Characterization of mucosa-associated bacterial communities in abomasal ulcers of calves by pyrosequencing". 5th Symposium of Animal Gut Health, November 12, 2015, Vienna, Austria.
45. Wetzels SU, Mann E, Pourazad P, Qumar M, Pinior B, Metzler-Zebeli BU, Wagner M, Klevenhusen F, Zebeli Q, **Schmitz-Esser S** (2015). "Dynamic microbial changes in the rumen of dairy cows during a long-term subacute ruminal acidosis". 5th Symposium of Animal Gut Health, November 12, 2015, Vienna, Austria.
46. Mann E, Pinior B, Wetzels SU, Metzler-Zebeli B, Wagner M, **Schmitz-Esser S** (2015). "Metabolisch aktive Bakterien in lymphatischen Organen vom Schwein und Potential zur Kontamination von

Schweinefleisch“. 56. Arbeitstagung des Arbeitsgebietes Lebensmittelhygiene, September 29 - October 2, 2015, Garmisch-Partenkirchen, Germany.

47. Rychli K, Müller A, Ciolacu L, Zaiser A, Wagner M, **Schmitz-Esser S** (2015). “*Listeria monocytogenes* of sequence type 121 harbor specific adaptations supporting persistence in food production plants6th Congress of European Microbiologists (FEMS), June 7-11, 2015, Maastricht, The Netherlands.
48. Mann E, Stouthamer CM, Kelly SE, Hunter MS, **Schmitz-Esser S** (2015). “Genetic basis of cytoplasmic incompatibility (CI) caused by *Cardinium* - transcriptional profiling of a CI-inducing *Cardinium* in male and female parasitiod wasps”. -6th Congress of European Microbiologists (FEMS), June 7-11, 2015, Maastricht, The Netherlands.
49. Mann E, Wagner M, **Schmitz-Esser S** (2015). “Metabolically active bacteria in lymphatic tissues of pigs”. 6th Congress of European Microbiologists (FEMS), June 7-11, 2015, Maastricht, The Netherlands.
50. Muhterem-Uyar M, Wagner M, **Schmitz-Esser S**, Stessl B (2015). “Key features for the adaption and survival of *Listeria monocytogenes* in the food processing environment”. 6th Congress of European Microbiologists (FEMS), June 7-11, 2015, Maastricht, The Netherlands
51. Stessl B, Simmer L, Muhterem-Uyar M, Muri-Klinger S, **Schmitz-Esser S**, Wagner M (2015). “Hygiene barriers in food processing facilities may serve as "trojan horses" for *L. monocytogenes*”. 6th Congress of European Microbiologists (FEMS), June 7-11, 2015, Maastricht, The Netherlands.
52. Stouthamer CM, **Schmitz-Esser S**, Mann E, Hunter M (2015). “Comparative genomics of *Cardinium*: Ascertaining genes underlying symbiont-induced reproductive manipulations”. Congress of the Entomological Society of America (ESA), November 15-18, 2015, Minneapolis, MN, USA.
53. Wetzels SU, Mann E, Metzler-Zebeli BU, Wagner M, Klevenhusen F, **Schmitz-Esser S**, Zebeli Q (2015). “Effects of feeding different energy supply on microbiota attached to the rumen wall in goats”. 69th Conference, Society of Nutrition Physiology, March 10-12, 2015, Göttingen, Germany.
54. Metzler-Zebeli BU, **Schmitz-Esser S**, Mann E, Zebeli Q (2015). “Alterations in the cecal bacterial metagenome in response to resistant starch type 4 in growing pigs”. 69th Conference, Society of Nutrition Physiology, March 10-12, 2015, Göttingen, Germany.
55. Mann E, Metzler-Zebeli BU, Wagner M, **Schmitz-Esser S** (2014). “Lymphatic tissues of pigs - evidence for metabolically active bacteria and a prediction of their metagenomic capacity”. 4th Symposium of Animal Gut Health, November 17, 2014, Vienna, Austria.
56. Metzler-Zebeli BU, **Schmitz-Esser S**, Mann E, Zebeli Q (2014). “Does RS4-type resistant starch has prebiotic properties in pigs?” 4th Symposium on Animal Gut Health, November 17, 2014, Vienna, Austria
57. Muhterem-Uyar M, Wagner M, **Schmitz-Esser S**, Stessl B (2014). “Evolution of *L. monocytogenes* persistence in a food processing environment”. Joint PROMISE and BACFOODNET - International Conference in Vienna, November 17-19, 2014, Vienna, Austria.
58. Mann E, Penz T, Siegl A, König L, Horn M, **Schmitz-Esser S** (2014). “Life-cycle dependent transcriptional responses associated with host adaption of *Amoebophilus asiaticus*”. 15th International Symposium on Microbial Ecology (ISME), August 24-29, 2014, Seoul, South Korea.
59. Mann E, Wagner M, **Schmitz-Esser S** (2014). “Metabolically active bacteria in lymphatic tissues of pigs and its spread during slaughter”. 15th International Symposium on Microbial Ecology (ISME), August 24-29, 2014, Seoul, South Korea.
60. **Schmitz-Esser S**, Mann E, Stouthamer CM, Kelly SE, Hunter MS (2014). “Genetic basis of *Cardinium*-caused cytoplasmic incompatibility”. 15th International Symposium on Microbial Ecology (ISME), August 24-29, 2014, Seoul, South Korea.
61. Mann E, Stouthamer CM, Kelly SE, Hunter MS, **Schmitz-Esser S** (2014). “Genetic basis of *Cardinium*-caused cytoplasmic incompatibility”. 8th International *Wolbachia* Conference, June 6-11, 2014, Igls, Austria.
62. Rychli K, Müller A, Zaiser A, Stessl B, Wagner M, **Schmitz-Esser S** (2014). “Tn*6188* - a novel transposon in *Listeria monocytogenes* responsible for tolerance to various quaternary ammonium compounds”. FoodMicro, September 1-4, 2014, Nantes, France.

63. Schornsteiner E, Mann E, Wagner M, **Schmitz-Esser S** (2014). "Analysis of cheese rind microbial community structure of Austrian alpine hard cheese reveals facility specific and ripening time-dependent dynamics". 24th ICFMH Symposium - FoodMicro 2014, September 1-4, 2014, Nantes, France.
64. Wetzels SU, Mann E, Metzler-Zebeli BU, Klevenhusen F, Wagner M, Zebeli Q, **Schmitz-Esser S** (2014). "Pyrosequencing reveals shifts in the rumen mucosa-associated bacterial community in goats fed different levels of energy supply". Rowett-INRA 2014 Gut Microbiology: from sequence to function, June 16-19, 2014, Aberdeen, Scotland, UK.
65. Dzieciol M, Hund A, Wagner M, Wittek T, **Schmitz-Esser S** (2014). "Comparative study of the microbiome of the abomasum in cattle with or without abomasal ulcers". 4th Joint Conference of the German Society for Hygiene and Microbiology (DGHM) and the Association for General and Applied Microbiology (VAAM), October 5-8, 2014, Dresden, Germany. Biospektrum (Sonderausgabe) 145.
66. Muhterem-Uyar M, Wagner M, **Schmitz-Esser S**, Stessl B (2014). "Key features for the adaption and survival of *L. monocytogenes* in the food processing environment". 55th Congress of the Section Food Hygiene of the German Veterinarian Association (DVG), September 23-26, 2014, Garmisch-Partenkirchen, Germany.
67. Wetzels SU, Mann E, Metzler-Zebeli BU, Wagner M, Klevenhusen F, Zebeli Q, **Schmitz-Esser S** (2014). "Pyrosequencing reveals shifts in the caprine bacterial epimural community relative to dietary energy supply". 4th Symposium of Animal Gut Health, November 17, 2014, Vienna, Austria.
68. Klein-Jöbstl D, Drillich M, Schornsteiner E, Wagner M, **Schmitz-Esser S** (2013). "Calves' intestinal tract microbiota during early development". 15th International Conference on Production Diseases in Farm Animals, June 24-28, 2014, Uppsala, Sweden.
69. Mann E, Dzieciol M, Metzler-Zebeli BU, Wagner M, **Schmitz-Esser S** (2013). „Erstmalige Beschreibung des Kernmikrobioms ileocaecaler Lymphknoten bei Schlachtschweinen und Verschiebungen im Mikrobiom assoziiert mit pathologischen Lymphknotenveränderungen". 54. Arbeitstagung des Arbeitsgebietes Lebensmittelhygiene, Garmisch-Partenkirchen, Germany, September 24-27, 2013. Amtstierärztlicher Dienst und Lebensmittelkontrolle (Sonderausg. 2013)
70. Mann E, Dzieciol M, Metzler-Zebeli BU, Wagner M, **Schmitz-Esser S** (2013). "Microbiome of unreactive and pathologically altered ileocaecal lymph nodes of slaughter pigs". 3rd Symposium of Animal Gut Health, November 11, 2013, Vienna, Austria.
71. Mann E, **Schmitz-Esser S**, Zebeli Q, Wagner M, Ritzmann M, Metzler-Zebeli B (2013). "Deep sequencing reveals promotion of gastric lactobacilli in weaned pigs by increased dietary calcium-phosphorus levels". Annual conference of the Association for General and Applied Microbiology (VAAM), March 10-13, 2013, Bremen, Germany. Biospektrum (Sonderausgabe) 145-145.
72. Dzieciol M, Mann E, Metzler-Zebeli B, Wagner M, **Schmitz-Esser S** (2013). "Core microbiome of healthy and morphologically altered ileocaecal lymph nodes of slaughter pigs determined by 16S rRNA gene pyrosequencing". Annual conference of the Association for General and Applied Microbiology (VAAM), March 10-13, 2013, Bremen, Germany. Biospektrum (Sonderausgabe) 147-147.
73. Mann E, **Schmitz-Esser S,** Zebeli Q, Wagner M, Ritzmann M, Metzler-Zebeli BU (2013). "Pyrosequencing reveals shifts in gut mucosa-associated bacteria linked to dietary calcium-phosphorus in weaned pigs". International Workshop on Nutrition and Intestinal Microbiota-host interaction in the pig, October 24-25, 2013, Berlin, Germany. (ISBN: 978-3-00-043962-9)
74. Metzler-Zebeli BU, Mann E, **Schmitz-Esser S**, Wagner M, Ritzmann M, Zebeli Q (2013). "Alterations in gastro-intestinal bacterial microbiota and fermentation end-products in weaned pigs fed different dietary cereals and CaP levels (Getreideart und der Ca und P-Gehalt der Ration verändern die bakterielle Mikrobiota und Fermentationsendprodukte im Magen-Darm-Trakt beim Absetzferkel)". 67. Tagung der Gesellschaft für Ernährungsphysiologie/Proceedings of the Society of Nutrition Physiology, March 19-21, 2013, Göttingen, Germany.
75. Metzler-Zebeli BU, **Schmitz-Esser S**, Mann E, Wagner M, Ritzmann M, Zebeli Q (2013). "Evaluation of effects among dietary cereals and calcium-phosphorus level on nutrient digestibility and serum parameters in weaned pigs (Evaluierung der Effekte von Getreide und Kalzium-Phosphor-Gehalten

in der Ration auf Verdaulichkeit und Serumparameter beim Absetzferkel)". 67. Tagung der Gesellschaft für Ernährungsphysiologie/Proceedings of the Society of Nutrition Physiology, March 19-21, 2013, Göttingen, Germany.

76. Rychli K, Zaiser A, Allerberger F, Schoder D, Wagner M, **Schmitz-Esser S** (2013). "Genome sequencing and virulence analysis of *Listeria monocytogenes* outbreak strains". ISOPOL XVIII - International Symposium on Problems of Listeriosis, September 19-22, 2013, Goa, India.
77. **Schmitz-Esser S**, Müller A, Pricope L, Zaiser A, Rychli K, Wagner M (2013). "Comparative genome analyses of persistent L*isteria monocytogenes* strains". ISOPOL XVIII - International Symposium on Problems of Listeriosis, September 19-22, 2013, Goa, India.
78. **Schmitz-Esser S**, Schornsteiner E, Muhterem-Uyar M, Stessl B, Wagner M (2013). "Community analysis of *Listeria monocytogenes* -contaminated floor drains by Roche/454 16S rRNA amplicon pyrosequencing". ISOPOL XVIII - International Symposium on Problems of Listeriosis, September 19-22, 2013, Goa, India.
79. Schornsteiner E, Muhterem-Uyar M, Stessl B, Wagner M, **Schmitz-Esser S** (2013). „Analyse der mikrobiellen Gemeinschaften in *Listeria monocytogenes* kontaminierten Gullys milchverarbeitender Betriebe mittels Roche/454 16S rRNA Pyrosequenzierung". 54. Arbeitstagung des Arbeitsgebietes Lebensmittelhygiene, Garmisch-Partenkirchen, Germany, September 24-27, 2013. Amtstierärztlicher Dienst und Lebensmittelkontrolle (Sonderausg. 2013)
80. Mann E, **Schmitz-Esser S**, Wagner M, Zebeli Q, Metzler-Zebeli B (2012). "Metagenomic insights into mucosa-associated bacterial community in the gastrointestinal tract of pigs fed cereal based diets with different calcium-phosphorus levels". 2nd Symposium of Animal Gut Health, November 12, 2012, Vienna, Austria.
81. Rychli K, **Schmitz-Esser S**, Zaiser A, Allerberger F, Schoder D, Wagner M (2012). "Genome sequencing and virulence analysis of *Listeria monocytogenes* outbreak strains". FoodMicro International ICFMH Symposium 2012, September 3-7, 2012, Istanbul, Turkey.
82. **Schmitz-Esser S**, Müller AM, Pricope L, Zaiser A, Rychli K, Wagner M (2012). "Comparative genome and proteome analyses of persistent *Listeria monocytogenes* strains". FoodMicro, International ICFMH Symposium 2012, September 3-7, 2012, Istanbul, Turkey.
83. Müller A, Wagner M, Walochnik J, **Schmitz-Esser S** (2012). "Interaction of *Listeria monocytogenes* with free-living amoebae". 64th Annual Meeting of the German-Society-for-Hygiene-and-Microbiology (DGHM), September 30 - October 3, 2012, Hamburg, Germany. Int J Med Microbiol (302), S1 59-59.
84. **Schmitz-Esser S**, Müller A, Allerberger F, Wagner M (2012). "Comparative genome analyses of *Listeria monocytogenes* outbreak strains". 33rd Annual Meeting of the Austrian Society of Hygiene, Microbiology and Preventive Medicine (ÖGHMP), May 22-24, 2012, Salzburg, Austria.
85. Müller A, Wagner M, Walochnik J, **Schmitz-Esser S** (2012). "Interaction of *Listeria monocytogenes* with free-living amoebae". Annual Conference of the Association for General and Applied Microbiology (VAAM), March 18 - 21, 2012, Tübingen, Germany.
86. Müller A, Wagner M, Walochnik J, **Schmitz-Esser S** (2011). "Interaction of *Listeria monocytogenes* with free-living amoebae". Österreichische Gesellschaft für Tropenmedizin und Parasitologie, November 17 - 19, 2011, Vienna, Austria.
87. **Schmitz-Esser S**, Walcher M, Horn A, Horn M, Wagner M (2010). "Interaction of *Listeria monocytogenes* with free-living amoebae". 32nd Annual Meeting of the Austrian Society for Hygiene, Microbiology and Preventive Medicine, May 17-20, 2010, Vienna, Austria.
88. Penz T, Spang A, Tischler P, Arnold R, Wagner M, Rattei T, **Schmitz-Esser S**, Horn M. (2009). "The genome of the amoeba symbiont '*Candidatus* Amoebophilus asiaticus' shows massive proliferation of IS elements, but no signs of recent transpositional activity". 6th congress of the International Symbiosis Society (ISS), August 2009, Madison, WI, USA.
89. **Schmitz-Esser S**, Tischler P, Rattei T, Montanaro J, Wagner M, Horn M. (2008) "The evolution of symbiosis in the phylum *Bacteroidetes* – whole genome analysis of the amoeba symbiont *Candidatus* Amoebophilus asiaticus". Annual Conference of the Association for General and Applied Microbiology (VAAM), March 9 - 11, 2008, Frankfurt, Germany.

90. **Schmitz-Esser S**, Kelly SE, Montanaro J, Wagner M, Hunter MS, Horn M. (2007). "The evolution of symbiosis in the phylum *Bacteroidetes* – whole genome analysis of the symbionts *Candidatus* Amoebophilus asiaticus and *Candidatus* Cardinium hertigii". 10th International Colloquium on Endocytobiology and Symbiosis, September 10-13, 2007, Gmunden, Austria.
91. **Schmitz-Esser S**, Toenshoff ER, Haider S, Heinz E, Hoenninger VM, Wagner M, Horn M. (2006). "Diversity of bacterial endosymbionts of novel environmental *Acanthamoeba* isolates". 5th congress of the International Symbiosis Society (ISS), August 4-10, 2006, Vienna, Austria.
92. **Schmitz-Esser S**, Haider S, Toenshoff ER, Heinz E, Hoenninger VM, Stoecker K, Wagner M, Horn M. (2005). "Diversity of bacterial endosymbionts of novel environmental *Acanthamoeba* isolates". 2nd Joint Conference of the German Society for Hygiene and Microbiology (DGHM) and the Association for General and Applied Microbiology (VAAM), September 25-28,2005, Göttingen, Germany.
93. **Schmitz-Esser S**, Beier CL, Horn M, Wagner M. (2002). "EDGE - The Environmental Chlamydiae genome project". 54th Meeting of the German Society of Hygiene and Microbiology (DGHM). October 6-10, 2002, Heidelberg, Germany.

TEACHING
(25% OF APPOINTMENT)

PRIMARY TEACHING ASSIGNMENTS SINCE APPOINTMENT AT ISU

- **Micro 440** (4 credits). Fall 2019 to Spring 2024. This is the major lab class for microbiology seniors. I am responsible for one five-week module of this class. Overall 33% responsibility for this class. Co-instructors: Dr. Larry Halverson, Dr. Greg Phillips.
- **Micro 556** (1 credit). Spring 2020, 2022, 2024. "Microbial Ecology and Environmental Monitoring". This is part of the required classes for the ISU microbiology graduate students. Overall 100% responsibility for this class.
  SSE is responsible for teaching Micro 556 in even years. Co-instructor in odd years: Dr. Gwyn Beattie (Department of Plant Pathology and Microbiology).
- **Micro 116** (2 credits). Spring 2024. "Phage genome annotation lab"
  Overall 33% responsibility for this class. Co-instructor: Dr. Nick Peters.
- **Micro 604** (1 credit). Fall 2019, Fall, 2020, Spring 2021, Spring 2022, Fall 2022. This is the required seminar class for ISU microbiology graduate students. Overall 100% responsibility for this class.
- **ANS 658** (1 credit). Spring 2019. "Seminar Animal Breeding and Genetics". Coordinator of the required seminar for the Animal Breeding and Genetics graduate students. Overall 100% responsibility for this class.
- **Micro 450** (2 credits). Spring 2017 to Spring 2019. Overall 100% responsibility for this class. This is the capstone seminar class for microbiology seniors.

Guest lectures at ISU:

- **AN S 520** Special topics in ruminant nutrition: Spring 2020, Spring 2022, Spring 2024.
- **FSHN 517** Gut microbiome: Implications for health and disease: Fall 2017 to Fall 2023.
- **Preparing Future Faculty (PFF) program**: Fall 2019. I served on a panel on "Expectations at International Institutions"
- **ANS 501** Survey of animal disciplines: Fall 2017 to Fall 2019.
- **AGEDS 312** Science with Practice program. Fall 2018. I served on a panel on job perspectives in academia, research and industry
- **ANS 210** Career preparation in Animal Science: Fall 2018.
- **FSHN 489** Issues in food safety**:** Spring 2017 and 2018.

TEACHING ASSIGNMENTS PRIOR TO APPOINTMENT AT ISU

(University of Veterinary Medicine Vienna, Austria)

- Lab course (3 credits) "Quality assurance and risk assessment of food products". Spring 2012 to Spring 2015. This is a lab class within the Veterinary Medicine Curriculum which focuses on chemical and microbiological analyses of milk and dairy products.

GRADUATE STUDENT TRAINING AND MENTORING

Current graduate students at Iowa State University

Student	Degree/Date	Starting date	Major	Role
Anderson, Chiron	PhD, expected 2024	08-2018	Microbiology	Supervisor
Schultz, Dylan	PhD, expected 2025	08-2020	Microbiology	Supervisor
Rahic-Seggerman, Faith	PhD, expected 2026	01-2022	Microbiology	Supervisor
Strathman, Jessica	PhD, expected 2027	06-2023	Microbiology	Supervisor
Jonas, Lucille	PhD, expected 2027	06-2023	Microbiology	Supervisor

Degrees completed (n=13)

Since appointment at ISU (n=4)

1. **Tibbs-Cortes, Bienvenido, PhD**, December 2022, Microbiology. Thesis: "Identification and functional characterization of genes involved in the *Listeria monocytogenes* stress response". Present position: Postdoctoral researcher, USDA ARS, NADC, Ames, IA.
2. **Koester, Lucas, PhD**, May 2022, Microbiology. Thesis: "Characterization of the dairy cattle rumen microbial communities in response to long term supplementation of a sodium-saccharin based sweetener during normal physiological and heat stress conditions". Present position: Research Microbiologist, Agri-King Fulton, IL.
3. **Anast, Justin, PhD**, Dec. 2021, Microbiology. Thesis: "Exploration of the transcriptomes and functional contributions of Listeria monocytogenes plasmids during food production associated stress conditions". Present position: Research and Development Manager, NuTek Natural Ingredients, Omaha, NE.
4. **Naditz, Anna, PhD,** Dec. 2019, Microbiology**.** Thesis: "A Comparative Analysis of *Listeria monocytogenes* Plasmids: Presence, Contribution to Stress and Conservation**".** Present position: Corporate Microbiologist Rose Acre Farms, Seymour, IN.

Prior to appointment at ISU (n=9)

Please note that the academic system in Austria during my previous appointment did not allow me to serve as a major professor for students as I didn't have the "habilitation" (i.e. the qualification for a teaching career in higher education). I did, however, serve as a co-supervisor of the students listed below.

1. **Schön, Kerstin, Dr. med. Vet.**, August 2016 (Veterinary Medicine). Thesis: "Analysis of microbial communities in dairy processing floor drains". Present position: Quality Assurance Specialist, SPAR AG, Vienna, Austria.

2. **Pacher, Nicola, BSc,** September 2015. (Food and Biotechnology). Thesis: "Investigating the contribution of plasmids to stress survival in *Listeria monocytogenes*"**.** Present position: University of Natural Resources and Life Sciences, Vienna, Austria.
3. **Ertl, Daniel, MSc,** August 2015 (Biomedicine and Biotechnology). Thesis: "Comparison of biofilms from different Listeria monocytogenes strains and examination of various influencing factors from co-cultured bacteria". Present position: Radatz GmbH, Vienna, Austria.
4. **Müller, Anneliese, PhD,** January 2015 (Life Sciences). Thesis: "Elucidating novel mechanisms of survival of *Listeria monocytogenes* in food production and –processing environments". Present position: Biomin, Tulln, Austria.
5. **Schornsteiner, Elisa, Dr. med. Vet.** December 2014 (Veterinary Medicine). Thesis: "Molecular characterization of bacterial communities on "Vorarlberger Bergkäse" during its ripening time". Present position: Pfizer, Austria.
6. **Mann, Evelyne, PhD**, January 2014 (Veterinary Medicine). Thesis: "Characterization of microbial communities in the gastrointestinal tract and in ileocaecal lymph nodes of pigs". Present position: Assistant Professor, University of Veterinary Medicine, Vienna, Austria.
7. **Vizvari, Fruzsina, Diploma,** October 2013 (Veterinary Medicine). Thesis: "Identification and Characterization if the rumen wall-associated microbiota in the cow in dependence of different nitrogen content in the feed". Present position: Tierordination Hetzendorf, Vienna, Austria.
8. **Zangana, Abdoulla, MSc,** January 2012 (Molecular Microbiology and Immune Biology). Thesis: "Charakterisierung der mikrobiellen Flora des Pansenepithels beim Rind in Abhängigkeit von unterschiedlicher Fütterung". Present position: University of Veterinary Medicine, Vienna, Austria.
9. **Wetzels, Stefanie, Diploma,** January 2012 (Veterinary Medicine). Thesis: "Langfristige Effekte unterschiedlicher Energieversorgung auf die pansenassoziierte Mikrobiota bei der wachsenden Ziege ". Present position: Scientist, University of Veterinary Medicine, Vienna, Austria.

Hosting of international students and scholars

Since appointment at ISU

- Joel Bayo, graduate student from Uganda (September to October 2019) stayed in SSE lab to learn microbiome analyses.
- Dr. Bao Yi, Associate Professor, State Key Laboratory of Animal Nutrition, Beijing, China (March 2018 to January 2019) stayed in SSE lab to learn microbiome analyses.
- Narciso Quijada, Instituto Tecnológico Agrario de Castilla y León (ITACyL), Spain, PhD student, (June to August 2018) to work on rumen wall metatranscriptomics and sheep microbiota.
- Sinead Morrin, TEAGSC (The Agriculture and Food Development Authority), Moorepark Food Research Centre, Fermoy, Ireland, PhD student (February to March 2018); stayed in SSE lab to learn microbiome analyses.

Prior to appointment at ISU

- Dr. Beatriz Melero, Researcher, University of Burgos, Spain. Staid in SSE lab March-April 2015 to work on *Listeria monocytogenes* genome sequencing and analyses.
- Myrte van der Heijden. Undergraduate student from the HAS University of Applied Sciences, 's-Hertogenbosch, the Netherlands. Stayed in SSE lab from May through July 2015 to work on *Listeria monocytogenes* plasmids.
- Dr. Lucie Vondrakova, Prague British International School. Staid in SSE lab as a graduate student March-May 2011 to work on abundance of *Listeria monocytogenes* in the environment based on next-generation sequencing technologies.

Member of graduate student POS committees at ISU

In progress (n=9)

1. James, Leonora, PhD Animal Science — Major Professor: James Koltes
2. Kiefer, Zoe, PhD Animal Science — Major Professor: Jason Ross
3. Hartoonian, Phoebe, MS Animal Science — Major Professor: Ranga Appuhamy
4. Widmer, Katherine, MS Animal Science — Major Professor: Christopher Tuggle
5. Harris, Dylan, PhD Microbiology — Major Professor: Torey Looft
6. Mohammed, Mostafa, PhD Veterinary Microbiology — Major Professor: Mohammed El-Gazzar
7. De Wolf, Sarah, PhD Microbiology — Major Professor: Gregory Phillips
8. Bera, Abesh, PhD, Microbiology. — Major Professor: Mohan Gupta
9. Stevenson, Zackry, PhD, Microbiology — Major Professor: Elizabeth Swanner
10. Chung, Henri, PhD, Bioinformatics and Computational Biology — Major Professor: Iddo Friedberg

Completed (n=17)

1. Fries-Craft, Krysten, PhD, Animal Science, Graduation: November 2023. Major Professor: Elizabeth Bobeck
2. Grimsley, Malissa, MS, Microbiology, Graduation: November 2023. Major Professor: Alexandra Scupham
3. Delp, Drew, MS Plant Pathology, Graduation: April 2023. Major Professor: Gwynn Beattie
4. Cassas, Mackenzie, MS, Animal Science. Graduation: April 2023. Major Professor: Curt Youngs
5. Wasendorf, Chloe, PhD, Microbiology. Graduation: May 2022. Major Professor: Nick Peters, Nancy Boury
6. Lee, Conard, PhD, Microbiology. Graduation: September 2021. Major Professor: Larry Halverson
7. Wiersema, Maddison, MS, Animal Science. Graduation: August 2021. Major Professor: Dawn Koltes
8. Stepanchko, Nadiia, MS, Animal Science. Graduation: July 2021. Major Professor: Ranga Appuhamy
9. Contreras-Ramos, Moises, PhD, Chemical and Biological Engineering. Graduation: July 2021. Major Professor: Tom Mansell
10. Jantzi, Abigail, MS, Animal Science. Graduation: June 2021. Major Professor: James Koltes
11. Maki, Joel, PhD, Microbiology. Graduation: May 2021. Major Professor: Torey Looft
12. Kiefer, Zoe, MS, Animal Science. Graduation: May 2021. Major Professor: Jason Ross
13. Redweik, Graham, PhD, Microbiology. Graduation: May 2021. Major Professor: Melha Mellata
14. Villageliu, Daniel, PhD, Microbiology. Graduation: December 2020. Major Professor: Mark Lyte
15. Backes, Nicholas, PhD, Microbiology. Graduation: July 2020. Major Professor: Gregory Phillips
16. Fries-Craft, Krysten, MS, Animal Science. Graduation: July 2019. Major Professor: Elizabeth Bobeck
17. Wickramasinghe, Janaka, MS, Animal Science. Graduation: June 2019. Major Professor: Ranga Appuhamy

Graduate student awards

- Cortes, B. 2022: 2nd place, oral presentation, ISU Graduate and Professional Student Conference
- Cortes, B. 2021: International Association for Food Protection (IAFP) student travel scholarship
- Anast, J. 2019: International Association for Food Protection (IAFP) student travel scholarship
- Anast, J. 2018: Caine-Bogle Family Graduate Fellowship, Iowa State University

- Anast, J. 2018: 2nd place, graduate oral presentation, American Society of Microbiology, North Central Branch conference, 2018
- Anast, J. 2018: Caine-Bogle Family Graduate Fellowship, Iowa State University
- Anast, J. 2016: Iowa State University Presidential Graduate Scholarship

UNDERGRADUATE STUDENT TRAINING AND MENTORING

Undergraduate student research assistants at ISU (n=15)

- Cole Andersen (Spring 2023 to Spring 2024, for payment)
- Jolcey Santana (Summer 2023 to Spring 2024, payment ISU Science Bound Program)
- Sophia Bohnkamp (Spring 2022 to Spring 2023, research credits and payment)
- Lucille Jonas (Spring 2021 to Spring 2022, research credits)
- Kasey Sullivan (Spring 2021 to Spring 2022, research credits)
- Faith Seggerman (Fall 2019 to Spring 2021, for payment)
- Dylan Schultz (Spring 2017 to Spring 2020, research credits and payment)
- Scott Starr (Fall 2019, research credits)
- Kathryn Klages (Fall 2019, research credits)
- Leonora James (Spring 2019 to Fall 2019, research credits)
- Braden Weiser (Spring 2018, research credits)
- Ashlyn Bellman (Spring 2017 to Spring 2018, for research credits)
- Olivia Cool (Fall 2017, research credits)
- Alysha Harless (Spring 2017, research credits)
- Madison Durflinger (Fall 2016, research credits)

Other undergraduate student mentoring

- Guest lecture in the ISU Microbiology Program club (February 2019).
- Served as faculty mentor for ISU College of Agriculture and Life Sciences "Science with practice" program (https://www.ageds.iastate.edu/science-with-practice/) for 5 undergraduate students (Fall 2017, Fall 2018, Fall 2021, Fall 2023)

PROFESSIONAL SERVICE (5% OF APPOINTMENT)

Departmental service

1. Member of the search committee for new Assistant Professor position (2023)
2. Member of Post-Tenure Review committee of one Professor (2023)
3. Member of the search committee for new department chair (2022)
4. Member of the Diversity, Equity, and Inclusion committee (2021 to present)
5. Member of the Seminar committee (2022 to present)
6. Member of the culture of collaboration committee (2022 to 2023)
7. Faculty mentor for one Assistant Professor (since 2021)
8. Chuckwagon breakfast committee (since 2021)
9. Chair of Preliminary Evaluation committee of one Assistant Professor (2020)
10. Member of Preliminary Evaluation committee of one Assistant Professor (2020)
11. Supervisory committee Microbiology Undergraduate Program (2016 to present)

University service

1. Member of Faculty Senate (at-large Faculty Senate seat from the College of Agriculture and Life Sciences): (since 2023)
2. Interdepartmental Microbiology Graduate Program, Chair: (2020 – 2022)
   (*Please note that in the ISU Interdepartmental Microbiology Graduate Program, the Director of Graduate Education (DOGE) is called "Chair"*)
3. Interdepartmental Microbiology Graduate Program, Associate Chair (summer 2018 – summer 2020)
4. Admissions committee Interdepartmental Microbiology Graduate Program, Chair (summer 2017 - summer 2018)
5. May 2021: Volunteer to supervise High School students during a Microbiology Project in the ISU Microbiology teaching lab.

Scientific community service

Prior to appointment at ISU

- Co-organizer, Joint Conference PROMISE and BacFood Net: Persistent lifestyles of food-borne pathogens and its consequence. Austrian Agency for Health and Food Safety, Vienna, Austria, November 2014 (Attendance approximately 120)
- 2012 – 2014: Task leader COST Action FA1202 "A European Network for Mitigating Bacterial Colonisation and Persistence on Foods and Food Processing Environments"
- Co-organizer, International Workshop on New Techniques in Microbial Ecology (INTIME-7), Lackenhof, Austria, August 2009 (Attendance approximately 80).

Since appointment at ISU

- Served as external reviewer for the PhD thesis of Irene Ortega Sanz, graduate student from the University of Burgos, Spain, 2024.
- Served as external reviewer for the PhD thesis of Narciso Quijada, graduate student from the Instituto Tecnológico Agrario de Castilla y León (ITACyL), Spain. 2019.
- Invited participation in workshop "Genome to Phenome: Improving Animal Health, Production, and Well-Being – A New USDA Blueprint for Animal Genome Research 2018–2027". Beltsville, MD, November 2017.
- Served on grant review panel for USDA-NIFA 2022
- Served on grant review panel for NSF 2023

Editorial responsibilities

- 2022 to present: Editorial Board, Microbiology Spectrum (IF 3.7, Q2 (Microbiology))
- 2021-2022: Associate Editor, Frontiers in Microbiology (IF: 5.2, Q1 (Microbiology), Symbiosis section)

Invited reviewer for scientific journals (IF denotes 2022 journal impact factor)

- Microbiome (IF 15.5), Comprehensive Reviews in Food Science and Food Safety (IF 12.8), Genome Research (IF 11.0), ISME Journal (IF 11), Gut Microbes (IF 12.2), Cell Reports (IF 9.4), mBio (IF 7.8), Bioinformatics (IF 6.9), mSystems (IF 6.6), Microbial Biotechnology (IF 5.8), Frontiers in Microbiology (IF 5.2), Environmental Microbiology (IF: 5.1), Food Microbiology (IF 5.3), International Journal of Food Microbiology (IF 5.4), Journal of Animal Science and

Biotechnology (IF 5.0), Applied and Environmental Microbiology (IF 4.4), Applied Microbiology and Biotechnology (IF 4.8), Scientific Reports (IF 4.3), FEMS Microbiology Ecology (IF 4.2), Journal of Dairy Science (IF 3.5), BMC Genomics (IF 3.9), British Journal of Nutrition (IF 3.7), BMC Microbiology (IF 3.6), PLoS One (IF 3.7).

Ad-hoc reviewer for granting agencies

- 2024: Austrian Science Fund (FWF), Austria
- 2021: National Agency for Research – ANR, France
- 2020: Fund for Scientific Research – FNRS, Belgium
- 2017, 2019, 2020: BARD - The US-Israel Agricultural Research & Development Fund
- 2018: BCRC – Beef Cattle Research Council, Canada
- 2016: Federal Ministry of Education and Research (BMBF), Germany
- 2016: National Science Center (NCN), Poland