|  |  |  |
| --- | --- | --- |
| Syracuse University  Dept. of Biology  Life Sciences Complex  107 College Pl  Syracuse, NY 13210 | **Sarah K. Lucas**  Postdoctoral Fellow | Phone: +1 (703) 989-4078  Email: [sklucas@syr.edu](mailto:sklucas@syr.edu)  Pronouns: she/her |

**Current Position**

|  |  |
| --- | --- |
| **2020 - present** | **Department of Microbiology & Immunology, University of Michigan**  Postdoctoral Fellow, Prof. Patrick D. Schloss Lab |

**Academic History & Training**

|  |  |
| --- | --- |
| **2014 - 2020** | **Department of Microbiology & Immunology, University of Minnesota**  Ph.D. Microbiology, Immunology, and Cancer Biology Graduate Program  *Thesis: “Bacterial communities associated with chronic rhinosinusitis and the impact of mucin degradation on Staphylococcus aureus physiology”*  *Advisor:* Prof. Ryan C. Hunter  *Committee:* Prof. Gary M. Dunny (Chair), Prof. Mark Herzberg, Prof. Dan Knights |
| **2011 - 2014** | **Research Associate**, Genomic Medicine and Infectious Disease Groups,  J. Craig Venter Institute, Rockville, MD |
| **2010** | **Eberly College of Science, Pennsylvania State University**  B.S. Microbiology |
| **2009 - 2010** | **Undergraduate Research Assistant**, Prof. Pamela A. Hankey Giblin Lab, Pennsylvania State University |

**Peer-Reviewed Publications**

1. Lapp, Z., Sovacool, K. L., Lesniak, N., King, D., Barnier, C., Flickinger, M., …, **Lucas, S. K**., …, & Schloss, P. D. (2022). Developing and deploying an integrated workshop curriculum teaching computational skills for reproducible research. ***Journal of Open Source Education*,** *5*(47), 144.
2. **Lucas, S. K**., Villarreal, A. R., Ahmad, M. M., Itabiyi, A., Feddema, E., Boyer, H. C., & Hunter, R. C. (2021). “Anaerobic microbiota derived from the upper airways impact *Staphylococcus aureus* physiology**.” *Infection and immunity***, *89*(9), e00153-21.
3. **Lucas, S. K.,** Feddema, E., Boyer, H. C., & Hunter, R. C. (2021). Diversity of cystic fibrosis chronic rhinosinusitis microbiota correlates with different pathogen dominance**. *Journal of Cystic Fibrosis***, *20*(4), 678-681.
4. Valentini, T. D.\*, **Lucas, S. K.\*,** Binder, K. A.\*, Cameron, L. C., Motl, J. A., Dunitz, J. M., & Hunter, R. C. (2020). Bioorthogonal non-canonical amino acid tagging reveals translationally active subpopulations of the cystic fibrosis lung microbiota. ***Nature communications***, *11*(1), 1-11.

*\*Indicates equal contribution to the work*

1. Vangay, P., Johnson, A. J., Ward, T. L., Al-Ghalith, G. A., Shields-Cutler, R. R., Hillmann, B. M., …, **Lucas S. K.,** …, & Knights, D. (2018). US immigration westernizes the human gut microbiome. ***Cell***, *175*(4), 962-972.
2. Choi, Y., Banerjee, A., McNish, S., Couch, K. S., Torralba, M. G., **Lucas, S.,** Tovchigrechko, A., Madupu, R., Yooseph, S., Nelseon, K. E., Shanmugam, V. K. & Chan, A. P. (2019). Co-occurrence of anaerobes in human chronic wounds. ***Microbial ecology***, *77*(3), 808-820.
3. **Lucas, S. K.,** Yang, R., Dunitz, J. M., Boyer, H. C., & Hunter, R. C. (2018). 16S rRNA gene sequencing reveals site-specific signatures of the upper and lower airways of cystic fibrosis patients. ***Journal of Cystic Fibrosis***, *17*(2), 204-212.
4. Sismaet, H. J., Banerjee, A., McNish, S., Choi, Y., Torralba, M., **Lucas, S.,** Chan, A., Shanmugam, V. K. & Goluch, E. D. (2016). Electrochemical detection of *Pseudomonas* in wound exudate samples from patients with chronic wounds. ***Wound Repair and Regeneration***, *24*(2), 366-372.
5. Shankar, J., Nguyen, M. H., Crespo, M. M., Kwak, E. J., **Lucas, S. K.,** McHugh, K. J., Mounaud S., Alcorn, J. F., Pilewski, J. M., Shigemura, N., Kolls, J. K., Nierman, W. C. & Clancy, C. J. (2016). Looking Beyond Respiratory Cultures: Microbiome‐Cytokine Signatures of Bacterial Pneumonia and Tracheobronchitis in Lung Transplant Recipients. ***American Journal of Transplantation***, *16*(6), 1766-1778.
6. Yeoman, C. J., Thomas, S. M., Miller, M. E. B., Ulanov, A. V., Torralba, M., **Lucas, S.,** Gillis, M., Cregger, M., Gomez, A., Ho, M., Leigh, S. R., Stumpf, R., Creedon, D. J., Smith, M. A., Weisbaum, J. S., Nelson, K. E., Wilson, B. A. & White, B. A. (2013). A multi-omic systems-based approach reveals metabolic markers of bacterial vaginosis and insight into the disease. ***PloS one***, *8*(2), e56111.
7. Fouts, D. E., Pieper, R., Szpakowski, S., Pohl, H., Knoblach, S., Suh, M. J., Huang S. T., Ljungb I., Sprague, B. M., **Lucas, S. K.,** Torralba, M. T., Nelson, K. E., & Groah, S. L. (2012). Integrated next-generation sequencing of 16S rDNA and metaproteomics differentiate the healthy urine microbiome from asymptomatic bacteriuria in neuropathic bladder associated with spinal cord injury. ***Journal of translational medicine***, *10*(1), 1-17.

**Manuscripts In Review**

1. Vangay, P., Ward, T., **Lucas, S. K.**, Beura, L. K., Sabas, D., Abramson, M., Till, L., Kashyap, P., Hunter, R. C., Masopust, D., Knights, D. “Industrialized human gut microbiota causes intestinal inflammation”.
2. Moore P.J., Wiggen, T., Kent, L. A., S Arif, SK Lucas, SM O’Grady, RC Hunter. Anaerobic microbiota facilitate *P. aeruginosa* access to the airway epithelium in a novel co-culture model of colonization. Preprint: https://doi.org/10.1101/2021.03.05.433759

**Invited Talks and Seminars**

|  |  |
| --- | --- |
| **2019** | The Microbial and Plant Genomics Institute Fall Symposium, University of Minnesota, Twin Cities, MN, USA |
| **2017** | University of Minnesota Cystic Fibrosis Research Collaborative Meeting, University of Minnesota, Twin Cities, MN, USA |
| **2017** | Microbiology, Immunology, and Cancer Biology Student Seminar, University of Minnesota, Twin Cities, MN, USA |
| **2016** | Center for Infections Disease and Microbiology Translational Research (CIDMTR) Seminar, University of Minnesota, Twin Cities, MN, USA |
| **2016** | Mayo Clinic Microbial Ecology Retreat, Rochester, MN, USA |
| **2015** | Microbiology, Immunology, and Cancer Biology Student Seminar, University of Minnesota, Twin Cities, MN, USA |

**Contributed Conference Talks and Posters**

|  |  |
| --- | --- |
| **2020** | Anaerobe 2020, Seattle, WA, USA **(virtual talk)** |
| **2019** | Cold Spring Harbor Laboratory Microbiome Meeting, Cold Spring Harbor, NY, USA |
| **2019** | ASM Microbe 2019, Session: Stuck on You: Mucin-Microbe Interplay in Health and Disease, San Francisco, CA, USA **(talk)** |
| **2018** | North American Cystic Fibrosis Conference (NACFC), Session: Microbial Ecology of the CF Airways, Denver, CO, USA **(talk)** |
| **2018** | Midwest Microbial Pathogenesis Conference 2018, University of Iowa, Iowa City, IA, USA **(talk)** |
| **2018** | International Society for Microbial Ecology ISME17, Leipzig, Germany |
| **2017** | ASM Microbe 2017, New Orleans, LA, USA |
| **2016** | Midwest Microbial Pathogenesis Conference 2016, University of Illinois, Urbana-Champagne, IL, USA |
| **2016** | ASM Microbe 2016, Boston, MA, USA |
| **2015** | Telluride Science and Research Center Workshop: Cystic Fibrosis – Ecology, Evolution, and Eradication **(talk)** |

**Awards and Fellowships**

|  |  |
| --- | --- |
| **2019** | Doctoral Dissertation Fellowship (2019-2020 Academic Year). |
| **2019** | University of Minnesota Microbial and Plant Genomics Institute (MPGI) Travel Award – USD$400 |
| **2018** | University of Minnesota MICaB Council of Graduate Studies Student Service Award |
| **2017** | University of Minnesota MICaB Travel Award – USD$1000 |
| **2017** | NIDCR/NIH (F31) Ruth L. Kirschstein National Research Service Award (NRSA) Predoctoral Fellowship  *Title: The role of mucin degradation by anaerobic bacteria in* Staphylococcus aureus *pathogenesis in chronic rhinosinusitis.* |
| **2017** | University of Minnesota MICaB Student Service Award |
| **2017** | University of Minnesota College of Biological Sciences Outstanding Performance Award for Teaching Assistants – Finalist for the Fall 2016 teaching semester |
| **2016** | NIDCR/NIH (T32) Minnesota Craniofacial Research Training (MinnCResT Predoctoral Fellowship (September 2016 – December 2017) |
| **2015** | Telluride Science and Research Center Peter Salamon Award for Young Scientists |

**Additional Research Training**

|  |  |
| --- | --- |
| **2017** | Marine Biological Laboratory Intensive Course: Strategies and techniques for Analyzing Microbial Population Structure, Woods Hole, MA, USA |

**Mentoring Experience**

|  |  |
| --- | --- |
| **2020 - 2021** | Mentored undergraduate Andrew Beaudin, *Currently:* Researcher at Prof. Ali H. Brivanlou Lab, The Rockefeller University. *Projects:* Identification of biosynthetic gene clusters in metagenomic data; Isolation and characterization of lactobacilli from mouse fecal microbial communities. |
| **2018** | Mentored undergraduate researcher Sophie Kowaliczko, Hunter Lab, University of Minnesota. Project: Mucin microbial community enrichment and isolation from sinus mucus. |

**Teaching Experience & Training**

|  |  |
| --- | --- |
| **2021-2022** | Software Carpentry Instructor, “Workshop: R, Rmarkdown, The Unix Shell, and Git”, University of Michigan, Ann Arbor, MI. |
| **2021** | Curriculum developer, R for Data Analysis, The Carpentries at University of Michigan |
| **2015, ‘16** | Teaching Assistant, Fall Semester “Biology of Microorganisms” Laboratory Course.  *Independent course instruction introducing theory, application, and methodology of basic microbiological techniques.* |
| **2015** | Writing Across the Curriculum: Teaching with Writing Workshop, Center for Writing, University of Minnesota, Twin Cities, MN |

**Academic Service and Outreach**

|  |  |
| --- | --- |
| **2020-Present** | Member, U-M Carpentries at University of Michigan |
| **2017-2019** | Judge, Animal Sciences, Biomedical Sciences, Twin Cities Regional Science Fair, Minneapolis, MN, USA |
| **2017** | Market Science Event Organizer, Medical Microbiology  *Farmers market community outreach and education* |
| **2016-2017** | Member Graduate Women in Science (GWIS), Xi Chapter |
| **2011 – Present** | Member, American Society for Microbiology |

**Referee for the following journals:**

**2019** *BMC Infectious diseases*

**2018** *Scientific Reports*

**References**

**Patrick D. Schloss, Ph.D.**

Professor, Department of Microbiology & Immunology, University of Michigan

Frederick G. Novy Collegiate Professor of Microbiome Research

E-mail: pschloss@umich.edu

**Ryan C. Hunter, Ph.D.**

Associate Professor, Department of Microbiology & Immunology, University of Minnesota

E-mail: rchunter@umn.edu

**Gary M. Dunny, Ph.D.**

Professor, Department of Microbiology & Immunology, University of Minnesota

E-mail: dunny001@umn.edu

**Dan Knights, Ph.D.**

Associate Professor, BioTechnology Institute, Computer Science and Engineering, University of Minnesota

E-mail: dknights@umn.edu