

Jacob McKell, BS

Infectious Disease Researcher | Data Management Specialist

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SUMMARY

Clinical researcher with extensive experience in infectious disease trials, data management, and regulatory compliance. Proficient in Python-based automation and quality control for high-volume participant data. Background in biophysics with contributions to peer-reviewed publications and strong interdisciplinary communication skills

AREAS OF EXPERTISE

Human Subjects Research | Clinical Trial Management | Study Coordination | Participant Enrollment | Safety Monitoring | FDA regulations | Drug Accountability and Storage | Team Leadership | Recombinant Protein Synthesis | Pharmacology | Data Quality | Data Management | Data Privacy | Statistical Analysis | Object Oriented Programing | Python for Data Processing and Visualization | Python Pandas, OS, and Datetime Libraries | Optical Character Recognition | Secure Data Storage | Microsoft Office Suite

EDUCATION

2017 - 2021 | Bachelor of Science in Biophysics at Brigham Young University (GPA: 3.31/4.0)

– MCAT Score: 517 (2020)

– Relevant Coursework:

Physics | Organic Chemistry | Biochemistry | Molecular Biology | Microbiology | Cell Biology | Proteins and Nucleic Acids | Pharmacology | Recombinant Protein Synthesis | Advanced Laboratory Techniques

WORK EXPERIENCE

Senior Clinical Research Coordinator

October 2021 - present

- Assisted investigators with various clinical trials at the University of Utah School of Medicine. Managed study protocols, informed consent documents and processes, study enrollments, and compliance with local and federal regulations.
- Managed regulatory functions and ensured GCP compliance, working with the IRB, clinical trials monitoring, and US FDA safety monitoring.
- Managed the quality of digital survey data by ensuring high participant compliance, recovering missing survey data, and maintaining survey schedules.
- Interviewed, hired and trained staff on consent procedures, participant communication, vaccine administration, and proper drug management.
- Assisted investigators in writing and submitting study documents, including informed consent forms, protocols, and SOPs.

SHIELD Study

July 2024 - present

- Clinical trial comparing reactogenicity for two COVID-19 vaccine formulations for the 2024-2025 season.
- Ensured smooth operation, including facilitating the enrollment of 602 participants over 3 months.
- Assessed participants for eligibility and obtained informed consent. Enrolled participants.
- Oversaw drug management for vaccines, including developing temporary storage to maintain and track vaccine temperature for use at mobile vaccine clinics and during transport.

BEEHIVE Study

July 2023 - present

- Randomized double-blind clinical trial comparing the efficacy of two COVID-19 vaccine formulations for 2023-2024, including weekly illness surveillance.
- Ensured smooth operation, including facilitating the enrollment of 1188 participants over 4 months.
- Assessed participants for eligibility and obtained informed consent. Enrolled participants.
- Oversaw drug management for vaccines, including developing temporary storage to maintain and track vaccine temperature for use at mobile vaccine clinics and during transport.
- Developed and implemented a barcode system for tracking participant-submitted Rapid Antigen Test samples to ensure data quality in approximately 28,000 samples. This included creating an Optical Character Recognition system in Python software to assist in quality control.

RAIVEN Study

July 2022 - present

- Multi-site randomized double-blind clinical trial comparing the efficacy of two influenza vaccine formulations for 2022-2023, including weekly illness surveillance.
- Ensured smooth operation, including facilitating the enrollment of 912 participants over 4 months, the most of any RAIVEN site.
- Assessed participants for eligibility and obtained informed consent. Enrolled participants.
- Oversaw drug management for vaccines, including developing temporary storage to maintain and track vaccine temperature for use at mobile vaccine clinics and during transport.
- Coordinated collection and processing of biological samples for RT-PCR, Serum Antibody, and PBMC tests, including proper storage, timelines, and transport of samples.

PROTECT Study

October 2021 - present

- Multi-site pediatric prospective cohort study on COVID-19 infection and transmission, including weekly illness surveillance.
- Ensured smooth operation, including facilitating the enrollment of 290 pediatric participants who were followed throughout the 22 months of active study surveillance.
- Assessed pediatric participants for eligibility, and enrolled pediatric patients, obtaining consent from parents/guardians and assent from pediatric participants.
- Coordinated collection and processing of biological samples, specifically samples for RT-PCR tests and Serum Antibody tests.
- Automated time-consuming staff management and sample collection tasks using Python software.
- Used study data to produce original research projects for local poster conferences. This included using Python software to analyze and present data. One poster was awarded “Best Poster.”

RECOVER Study

January 2022 - August 2025

- Multi-site prospective cohort study on COVID-19 infection and transmission in front-line workers, including weekly illness surveillance.
- Managed regulatory functions, including IRB communication, GCP compliance, and safety monitoring.
- Assisted in coordinating collection of biological samples for a cohort of roughly 600 participants at any given time

Undergraduate Research Assistant

October 2019-May 2021

- Woodbury Biophysics Lab, Brigham Young University
- Optimized recombinant protein synthesis process by improving bacterial growth and protein harvest.
- Contributed to publications by graduate students at BYU.

Medication Technician/Nurse's Assistant

October 2019-March 2021

- Provo Assisted Living, Provo, UT
- Assisted 30+ residents with daily tasks, administering their medications, and coordinating with 3 pharmacies and several physicians.
- Handled secure drug management and safety for all medications, including narcotics.

Operating Room Orderly

June 2021-August 2021

- Utah Valley Intermountain Hospital, Provo, UT
- Ensured patient safety in pre- and post-operation transfer.
- Cleaned operating rooms, including assisting with sterile operating room procedures.

CERTIFICATIONS

Collaborative Institutional Training Initiative (CITI Program)

- Good Clinical Practice Course (US FDA Focus) Oct 21, 2021, exp. Aug 26, 2027
- Group 1. Biomedical Research Investigators and Key Personnel Oct 19, 2021, exp. Sept 3, 2027

University of Utah

- UU IRB: Single IRB Model Oct 20, 2021
- UU Clinical Research Foundations Apr. 2025

Google Coursera

- Crash Course on Python Dec 30, 2022

American Institute for Avalanche Research and Education (AIARE)

- AIARE I Course Jan 8, 2025

PUBLICATIONS

C., Mendoza et al. (Dec. 2019). “Calcium regulates the interplay between the tight junction and epithelial adherens junction at the plasma membrane.” In: *FEBS Letters* 596(2).18, pp. 219–231. URL: <https://doi.org/10.1002/1873-3468.14252>.

K., Lutrick et al. (Sept. 2022). “Parental intentions and perceptions toward COVID-19 vaccination among children aged 4 months to 4 years—PROTECT cohort, four states, July 2021-May 2022.” In: *Morbidity and Mortality Weekly Report* 71(35).18, pp. 1119–1124. URL: <https://doi.org/10.15585/mmwr.mm7135a2>.

L., Grant et al. (Sept. 2024). “Relative effectiveness and immunogenicity of quadrivalent recombinant influenza vaccine versus egg-based inactivated influenza vaccine among adults aged 18-64 years: Results and experience from a randomized, double-blind trial.” In: *Open Forum Infectious Diseases* 10(2). URL: <https://doi.org/10.1093/ofid/ofae559>.

POSTER CONFERENCES

J, McKell, Langston M, et al. (Apr. 2022). “Incidence of COVID-19 infection in Utah children during delta and omicron circulation.” In:
21st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, University of Utah, Salt Lake City, UT, USA. | Poster presentation
and

5th Annual Education, Research, Community Engagement Poster Summit, University of Utah, Salt Lake City, UT, USA | Poster presentation.

J, McKell, Griffin J, et al. (Apr. 2023). “Demographic Factors and Symptoms Associated with Long-COVID in Non-hospitalized Children and Youth in the Utah PROTECT Cohort.” In:
22nd Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, University of Utah, Salt Lake City, UT, USA. | Poster presentation and podium talk | Awarded BLOHSWEIC award for “Best Poster”
and

6th Annual Education, Research, Community Engagement Poster Summit, University of Utah, Salt Lake City, UT, USA | Poster presentation.

Sarang K. Yoon Matthew S. Thiese, et al. (Oct. 2025). “Difference in Reactogenicity Events Between mRNA and Protein-subunit Vaccines: Results from the Booster Epidemiological Evaluation of Health, Illness, and Vaccine Efficacy (BEEHIVE) Study, a U.S. randomized trial of 2023-2024 COVID-19 vaccines (XBB.1.5)”. In: *Presented at ID week 2025 in Atlanta, Georgia, USA | Poster presentation.*

ACKNOWLEDGED CONTRIBUTIONS

L., Fowlkes A. et al. (Dec. 2022). “Effectiveness of 2-Dose BNT162b2 (Pfizer BioNTech) mRNA Vaccine in Preventing SARS-CoV-2 Infection Among Children Aged 5-11 Years and Adolescents Aged 12-15 Years - PROTECT Cohort, July 2021-February 2022”. In: *MMWR: Morbidity and mortality weekly report* 71(11), pp. 422–428. URL: <https://doi.org/10.15585/mmwr.mm7111e1>.

J., Hollister et al. (Dec. 2023). “Serum per- and polyfluoroalkyl substance concentrations and longitudinal change in post-infection and post-vaccination SARS-CoV-2 antibodies.” In: *Environmental research* 239(Pt 1), p. 117297. URL: <https://doi.org/10.1016/j.envres.2023.117297>.

R., Feldstein L., Britton A., et al. (Dec. 2023). “Effectiveness of Bivalent mRNA COVID-19 Vaccines in Preventing SARS-CoV-2 Infection in Children and Adolescents Aged 5 to 17 Years.” In: *JAMA* 331(5), pp. 408–416. URL: <https://doi.org/10.1001/jama.2023.27022>.

K., Romine J. et al. (Dec. 2024). “Hybrid Immunity and SARS-CoV-2 Antibodies: Results of the HEROES-RECOVER Prospective Cohort Study”. In: *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America* 79(1), pp. 96–107. URL: <https://doi.org/10.1093/cid/ciae130>.

J., Mak et al. (Dec. 2025). “Association of Messenger RNA Coronavirus Disease 2019 (COVID-19) Vaccination and Reductions in Post COVID Conditions Following Severe Acute Respiratory Syndrome Coronavirus 2 Infection in a US Prospective Cohort of Essential Workers”. In: *The Journal of infectious diseases* 231(3), pp. 665–676. URL: <https://doi.org/10.1093/infdis/jiae556>.

R., Feldstein L., Ruffin J., et al. (Dec. 2025). “Protection From COVID-19 Vaccination and Prior SARS-CoV-2 Infection Among Children Aged 6 Months-4 Years, United States, September 2022-April 2023”. In: *Journal of the Pediatric Infectious Diseases Society* 14(1), piae121. URL: <https://doi.org/10.1093/jpids/piae121>.

R., Yousaf A. et al. (Dec. 2025). “COVID-19 Vaccination and Odds of Post-COVID-19 Condition Symptoms in Children Aged 5 to 17 Years”. In: *JAMA network open* 8(2), e2459672. URL: <https://doi.org/10.1001/jamanetworkopen.2024.59672>.

OTHER INTERESTS

Scandinavian Languages and Literature | Plant Identification and Foraging | Backcountry Snowboarding
Russian Literature | Canyoneering | Alpine Rock Climbing