

# Jacob Francis Hack

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## SUMMARY

Research Associate with 4+ years of laboratory experience and 3+ years of experience in preclinical radiation oncology and molecular biology. Skilled in cell culture, flow cytometry, qPCR, animal models, and SOP development. Strong communicator with experience training staff, managing lab operations, and presenting data at international conferences. Eager to apply scientific expertise in an industry setting focused on innovation and translational impact.

## SKILLS

**Technical:** R, Microsoft Office, ImageScope, FlowJo, Prism, JMP, statistical analysis

**Laboratory:** Adherent mammalian cell culture (mouse fibrosarcoma and human cancer cell lines), bacterial culture, qRT-PCR, single color flow cytometry, microscopy, Western blot, aseptic technique, experimental design, assay optimization

**Animal:** Mouse handling, breeding, retro-orbital bleeding, whole body plethysmography, microCT imaging, injections (subcutaneous and intraperitoneal), organ perfusion and harvest

**Language:** Spanish

## PROFESSIONAL EXPERIENCE

**Staff Research Associate II**

**05/2023-Present**

**Staff Research Associate I**

**01/2022 - 05/2023**

- Leads long-term study monitoring murine survivors of hematopoietic acute radiation syndrome for late tissue effects using retro-orbital blood draws, CBC, micro-CT, whole-body plethysmography, health checks, and organ harvest.
- Utilizes techniques such as adherent mammalian cell culture, flow cytometry, and qPCR to test the effects of epigenetic targeting drugs and ionizing radiation on repair mechanisms and gene expression in mouse fibrosarcoma.
- Compiles, organizes, analyzes, and presents experimental data in lab meetings.
- Writes, updates, and reviews, SOPs to standardize experimental workflows and laboratory procedures.
- Trains undergraduate researchers and staff in animal handling techniques, lab instrumentation, and aseptic technique.
- Manages duties like ordering, stocking, managing chemical waste, liquid nitrogen and -80°C freezers storage.

**Laboratory Technician**

**08/2020 - 01/2022**

- Conducted clinical testing for a wide array of diseases such as COVID-19 and Cystic Fibrosis using techniques like qPCR and bacterial culture.
- Accessioned clinical samples and performed limited reporting using a laboratory information system (LIS), ensuring accurate tracking and timely processing of COVID-19 and other diagnostic tests.
- Communicated directly with physicians and nurses, providing updates on test status, turnaround times, and reporting procedures to ensure timely patient care.

## Credentialing Coordinator

06/2015 - 08/2020

- Led project to digitize over a decade of physical physician credentialing records and organized data for over 300 physicians.
- Acted as point of contact for both patients and physicians, addressing inquiries related to billing and contract terms.

## EDUCATION

06/2020

Bachelor of Arts in Biological Sciences

09/2024

Certificate of Data Science

## PUBLICATIONS & PRESENTATIONS

Hack J.

Poster - The International Congress for Radiation Research. Montréal, Canada, Aug 2023.

Hack J.

Hack J.

## INTERESTS

**Interests:** Coding and app development (Flutter, React, Python), golf, weightlifting,