

Position Title: Postdoctoral Fellow in Comparative Radiobiology, Translational Radiopharmaceutical Development, and Boron Neutron Capture Therapy (BNCT)

Department: Veterinary Medicine & Surgery

Position Type: Full-Time Academic

Job ID: 50043

Job Description:

The Department of Veterinary Medicine and Surgery at the University of Missouri is seeking a highly motivated and dynamic Postdoctoral Fellow to join our multidisciplinary team. The successful candidate will play a key role in advancing our understanding of comparative radiobiology, contributing to the development of novel radiopharmaceuticals, and exploring the application of Boron Neutron Capture Therapy (BNCT) for targeted cancer treatment. This individual will work primarily in the Comparative Oncology, Radiobiology, and Epigenetics Laboratory (COREL) housed within the Department of Veterinary Medicine and Surgery. Additionally, the individual is expected to work closely with faculty and researchers at the University of Missouri Research Reactor (MURR) and the Molecular Imaging and Theranostics Center (MITC).

The COREL laboratory contains a Bio-Rad C 1000 Thermal Cycler 96 well module, 2 Thermo Scientific HeraCell 150i air Jacketed CO₂ incubators, a LabConco Delta Series class II biological safety cabinet, Bio-Rad Experion analyzer, a Branson 450D Sonicator, Thermodyne Locater JR Plus Cryo storage unit, Fisher Scientific inverted microscope, Thermo Scientific Titer Plate shaker, Precision Scientific water bath, Heraeus Biofuge Stratos and 15 centrifuges, and a complete selection of Rainin electronic and Pipette-lite pipettes. Equipment for radiobiologic studies include a Trevigen comet assay kit, micronucleus assays, and live cell imaging using a Lionheart F/X, equipped with a variety of filters for fluorescent imaging. The unit is also equipped with an automated scratch assay kit, a controlled humidity and environmental chamber, and the Gen5 analysis software with spot analysis toolkits.

Responsibilities:

1. Conduct independent research in comparative radiobiology, investigating the effects of radiation on different biological systems.
2. Collaborate with interdisciplinary teams to design and execute experiments aimed at elucidating molecular and cellular responses to radiation in various organisms.
3. Explore the potential of BNCT as a targeted cancer therapy, including the evaluation of boron-containing compounds for neutron capture.
4. Investigate the radiobiology and translational potential of radiopharmaceuticals by evaluating their efficacy and safety in preclinical models and participating in companion animal studies.
5. Analyze experimental data, prepare research manuscripts, and contribute to the dissemination of research findings through publications and presentations.
6. Stay abreast of the latest developments in radiobiology, radiopharmaceutical development, and BNCT through literature reviews and participation in scientific conferences.
7. Mentor and train junior researchers and graduate students.

8. Collaborate with industry partners and external research institutions to foster translational research initiatives in BNCT.

Qualifications:

- A Ph.D. in Radiobiology, Radiochemistry, Cancer Biology, or a related field.
- Prior experience with animal models and ethical considerations in animal research.

Candidates will be evaluated on:

- Experience with Single Cell Gel Electrophoresis (Comet Assay)
- Experience with Micronucleus Assay utilizing gH2AX or BP53
- Working knowledge of fluorescent microscopy and image analysis techniques
- Strong background in comparative radiobiology, with expertise in radiation-induced cellular and molecular responses.
- Experience in the development and evaluation of radiopharmaceuticals for diagnostic or therapeutic applications, with a specific interest in BNCT.
- Proficiency in experimental design, data analysis, and relevant statistical methods.
- Excellent written and oral communication skills, demonstrated by a strong publication record.
- Ability to work collaboratively in a team-oriented environment.

Please contact Dr. Charles Maitz, Maitzc@missouri.edu if you have specific questions about the position. Applications will be reviewed until a suitable candidate is identified and hired.

Community Information

Columbia offers small-town friendliness with big city features and a high quality of life for people of all ages and interests. Founded on education and known as an ideal college town, its location also makes it an attractive spot for businesses and travelers. Located on Interstate 70 and U.S. Highway 63, Columbia is right in the middle of the state and the nation. Just a couple hours' drive from St. Louis and Kansas City, Columbia is Boone County's largest population center offering big-city culture, activities, and resources with a low cost of living. Columbia is home to a variety of restaurants and entertainment venues and hosts more than a dozen cultural festivals each year. If you want to grow your career, continue your education, raise a family, and retire, Columbia is a good place to be!

Benefit Eligibility

This position is eligible for University benefits. As part of your total compensation, the University offers a comprehensive benefits package, including medical, dental and vision plans, retirement, and educational fee discounts for all four UM System campuses. For additional information on University benefits, please visit the Faculty & Staff Benefits website at <https://www.umsystem.edu/totalrewards/benefits>.

Values Commitment

We value the uniqueness of every individual and strive to ensure each person's success. Contributions from individuals with diverse backgrounds, experiences and perspectives promote intellectual pluralism and enable us to achieve the excellence that we seek in learning, research and engagement. This commitment makes our university a better place to work, learn and innovate.

In your application materials, please discuss your experiences and expertise that support these values and enrich our missions of teaching, research, and engagement.

Equal Employment Opportunity

The University of Missouri System is an Equal Opportunity Employer. Equal Opportunity is and shall be provided for all employees and applicants for employment on the basis of their demonstrated ability and

competence without unlawful discrimination on the basis of their race, color, national origin, ancestry, religion, sex, pregnancy, sexual orientation, gender identity, gender expression, age, disability, or protected veteran status, or any other status protected by applicable state or federal law. This policy applies to all employment decisions including, but not limited to, recruiting, hiring, training, promotions, pay practices, benefits, disciplinary actions and terminations. For more information, visit <https://www.umssystem.edu/ums/hr/eeo> or call the Director of Employee and Labor Relations at 573-882-7976.

To request ADA accommodations, please call the Director of Accessibility and ADA at 573-884-7278.