POSTDOC POSITION in microbiome-targeted biotherapeutics for oral cancer treatment

POSITION DESCRIPTION

The Marco Lab is seeking a highly motivated and skilled Postdoctoral Scholar to join our dynamic research team. This position is a unique opportunity to contribute to cutting-edge research in the areas of microbiome research, antimicrobial resistance, molecular biology, and cancer treatment. The Marco laboratory investigates interactions between commensal and ingested bacteria in gastrointestinal tract and the effects of microbes individually and collectively on health. The position is focused on a high-impact project and clinical study aimed at elucidating the molecular mechanisms via which a bacteriocin exerts antimicrobial and host-modulatory effects in the oral cavity to reverse oral dysbiosis and protect against tumorigenesis. Bacteriocins are secreted peptides made by lactic acid bacteria and other members of food and mammalian microbiomes and have significant therapeutic potential. The successful candidate will work in the Marco lab at the University of California, Davis (https://marcolab.ucdavis.edu/) and will be part of a multi-disciplinary and multi-institutional team. Successful candidates will lead microbiological and bioinformatic efforts, perform wet-lab experiments and work closely with Dr. Marco and all members of the Marco lab and its collaborators at UC Davis, UC Los Angeles, and UC San Francisco.

RESPONSIBILITIES:

The Postdoctoral Scholar will use their academic and professional expertise to make scientific contributions. Under the general direction of Dr. Marco, the Postdoc will collaborate with other research personnel as part of a project that is investigating how bacteriocins reverse oral dysbiosis and protect against tumorigenesis. The Postdoctoral Scholar will be actively engaged in generating and analyzing metaomics data and investigating the underlying mechanisms of bacteriocin resistance among members of the oral cavity microbiome.
Broadly, the Postdoctoral Scholar will:

- Conduct independent and collaborative research to investigate the oral microbiome and mechanisms of oral microbiome modulation by a bacteriocin therapeutic and potential underlying mechanisms of bacteriocin resistance.
- Design, plan, and execute experiments using modern microbiology and omics approaches and analyze and interpret experimental data.
- Collaborate with a multidisciplinary team of researchers including dentists and medical professionals.
- Publish research findings in peer-reviewed journals and present results at scientific conferences and seminars.
- Contribute to the preparation of grant proposals to secure funding for ongoing and future research projects.
- Participate in activities needed for lab management including lab safety, chemical inventory, lab waste, and other general lab maintenance tasks.
- Mentor and supervise students, providing guidance and training in laboratory techniques and research methodologies.

BASIC REQUIREMENTS

- A PhD (or equivalent international degree) or enrolled in a PhD (or equivalent international degree) program in bacteriology, molecular biology, or microbiome research.
- Proficiency in two or more of the following: microbiological, molecular biology, and microbiome bioinformatics methods.

- A PhD (or equivalent international degree) is required by the appointment start date.
- No more than three years of post-degree research experience by the start date.
- Proficiency in written and oral English.
- Ability to work collaboratively in a multidisciplinary research environment and contribute to team-based projects.
- Strong publication record or demonstrated potential for publishing high-quality research in reputable scientific journals.

Preferred additional requirements:
Demonstrated experience in the some or all the following areas:

- Microbial ecology
- Antimicrobial resistance
- Bacterial growth and metabolism
- Anaerobic culture
- Microscopy.
- (real-time) PCR
- Bacterial mutagenesis and cloning
- Microbiota and NGS data analyses
- (Comparative) Genomics
- Systems Biology
- Machine Learning and Machine Learning Frameworks

APPLICATION INSTRUCTIONS:
To apply, please send an email to Dr. Maria Marco (mmarco@ucdavis.edu) with the subject line *"Application for Postdoctoral Position – Bacteriocin use for oral cancer treatment"* and the following:
• Cover Letter
• Curriculum Vitae
• Name and contact information for 2 to 3 references

The position is available immediately for two years with the possibility of renewal contingent on performance. The UC Davis Office of Graduate Studies is the administrative home for Postdoctoral Scholars. Relevant information on resources, benefits and orientations can be found at https://grad.ucdavis.edu/resources-uc-davis-postdoctoral-scholars.

Application review will begin immediately and will continue until the position(s) are filled.