POSTDOCTORAL POSITION

Position Objective. The Department of Physiology & Biophysics at Case Western Reserve University School of Medicine seeks a highly motivated postdoctoral scholar to conduct research in the laboratory of Dr. Walter Boron. The Boron lab studies: (1) the movement of carbon dioxide (CO₂), oxygen (O₂), nitrogen (N₂) through the plasma membrane, including through protein channels in the membrane; and (2) the regulation of intracellular pH (pHᵢ) by membrane transport proteins, including the broader field of acid-base homeostasis; and (3) sensors for extracellular CO₂ and HCO₃⁻.

The applicant must have a PhD, MD/PhD, or equivalent degree in Physiology, Pharmacology, Biology, Biochemistry, Biophysics, or a closely related subject, and have a record of productivity evidenced by scholarly publications. Interested individuals should send a cover letter, CV, and contact information of three people who could provide recommendation letters of reference by email to walter.boron@case.edu.

ESSENTIAL FUNCTIONS

As a Postdoctoral Scholar, the candidate is expected to:

1. Design, plan, and carry out experiments under PI supervision to quantify the transmembrane flux CO₂, HCO₃⁻, CO₅⁺, NH₃, NH₄⁺, and H₂O via aquaporins, Rhesus proteins, Na-coupled bicarbonate transporters and other candidate gas channel proteins when expressed in Xenopus oocytes.

2. Perform standard molecular biology and biochemistry protocols to clone, mutate and quantify expression of our genes of interest in heterologous expression systems.

3. Rigorously document and analyze experimental results and present results in laboratory meetings, departmental seminars and scientific conferences.

4. Prepare manuscripts and contribute preliminary data and drafts of materials for grant proposals.
5. Work closely with other lab members to ensure projects are being completed according to the research plan and in organizing laboratory space and supplies.

6. Work with PI to submit and manage compliance with policies, procedures and regulations of the Animal Resource Center, IACUC, lab safety policy, and other applicable regulatory guidelines for which essential training will be provided.

SUPERVISORY RESPONSIBILITIES

Train and oversee rotation students and other research staff in the lab.

EDUCATION REQUIREMENTS

PhD in biomedical sciences with hands-on experience in physiology experiments and animal work.

YEARS OF RELEVANT EXPERIENCE REQUIRED

PhD with 0-3 years of postdoctoral experience.

PROPOSED SALARY RANGE

NIH salary scale.

DESIRABLE SKILLS

1. Experience in electrophysiology, particularly ion-sensitive microelectrodes and two-electrode voltage clamp.
2. Experience in molecular cloning, biochemistry and molecular & cell biology techniques.
3. Experience with handling and working on animal model experiments.
4. Ability to work independently after essential training has been provided.
5. Effective oral and written communication skills.
6. Flexibility in work schedule to complete necessary study within deadlines.

Qualified candidates should send their CV, cover letter, and three professional references to Dr. Walter Boron (walter.boron@case.edu).