

Postdoctoral Mentoring Plan

Scientific and Ethical Development

Postdoc associates will be exposed to bioprocessing operations related to both process development and scale-up development for the production of recombinant proteins with an emphasis on both upstream and downstream operations.

Advisors will meet regularly with each postdoc to discuss progress, including project timelines, the collection, analysis and evaluation of data, and the preparation of materials for the dissemination of findings. Such meetings will continue over the postdoc's full appointment and the frequency will be adjusted between once a week and once a month as needed.

Onboarding will include a series of safety training courses offered by Environmental Health and Safety at the University of Iowa. These courses will cover safety for general laboratory, biology, and chemical environments. Each postdoc will also be required to participate the *Responsible Conduct of Research* program governed by the Graduate College at the University of Iowa. These experiences will have broad applicability to careers in biotechnology.

Communication of the Science and Associated Skills

Advisors will work closely with each postdoc to assess and improve their professional communication skills, particularly as they pertain to the dissemination of research findings and the preparation of proposals for grant applications. Professional development will include oral and poster presentations of research findings during group meetings and as part of departmental and university-wide research gatherings. Participation as a speaker and presenter at national and international scientific conferences will also be encouraged. Writing skills will be judged and improved through creation of monthly research reports, composing, and revising manuscript drafts, and in the preparation of grant proposals. Lastly, each postdoc will represent their research team during all technical meetings of the IOWA BioFoundry group.

Constructive feedback will be provided throughout.

Career Planning and Professional Development

Individualized career development plans will be designed for each postdoc. Each plan will be tailored to the specific postdoc's career aspirations. Plans will include descriptions of the postdoc's research, training, and professional goals as well as a delineation of steps to achieve these goals. Postdocs will be encouraged to participate in professional workshops, online short courses, certificate programs, tutorials on resume design, sessions on interviewing skills, and other career development resources available at the University of Iowa.

Advisors will review and revisit this plan with the postdoc every six months.

Leadership skills will be developed and honed by requiring the postdoc to assume a laboratory leadership position. Principal responsibilities will center on the daily management of laboratory operations as well as providing training and mentoring for undergraduate and graduate students. Each postdoc will oversee management of laboratory supplies, maintain research equipment, ensure compliance with all safety protocols, track operational budgets, and monitor function of lab facilities.

Exposure to Academic and Industrial Environments and Translation Skills

A noteworthy feature of the proposed IOWA BioFoundry program is the opportunity for the postdoc associates to experience the translation of basic research performed in an academic laboratory into a large-scale biomanufacturing environment. This situation offers a powerful learning environment, and each postdoc will be encouraged to take advantage of the various opportunities that will arise during their appointment.