**Example 1**

Postdoctoral Scholar Research Mentoring Plan

**Background.** (Postdoc Name) would like to join our research group to work on the molecular composition of peat fire aerosol using ultrahigh resolution mass spectrometry techniques as a post-doc in July of 2020. Currently, (Postdoc Name) is in the process of finishing her first post-doc at the Institute for Atmospheric Sciences and Climate at the Italian National Research Council (CNR) in Bologna, Italy. At CNR, (postdoc name) has been studying ambient aerosol from severely polluted regions using nuclear magnetic resonance (NMR) and UVNis spectroscopy. This work has been focused on the bulk composition functional groups of organic aerosol and its absorbance characteristics to detennine the absorption coefficients. Recently, (mentor name) had the opportunity to work with (postdoc name) directly during her sabbatical appointment at CNR. Therefore, she has a good idea of (postdoc name) current laboratory skills and experience.

**Grant Proposal Training**. (Postdoc name) has some grant writing experience from her previous appointments, which we plan to build upon. At CNR, she has been working as a Marie Curie post­ doctoral fellow made possible by a grant by "The People Programme (Marie Curie Actions) Jntra­ European Fellowship." At Michigan Tech, she will be invited to participate in the development of a new proposal to potentially support her continued work with us beyond this current project. Additionally, the office of the Vice President for Research at Michigan Tech offers several grant proposal training opportunities for new faculty and post-doctoral researchers. One example of a training practice we encourage is service on review panels for the Michigan Tech Research for Excellence Program. The program solicits proposals from pre-tenured faculty at Michigan Tech. Due to the diverse disciplines of the campus panel, the proposals are generally written for a fairly broad audience.

**Publications and Presentations**. Postdoctoral scholars are encouraged to attend National scientific meeting (e.g., American Geophysical Union fall meeting) for presentation of their research. The project budget includes domestic travel support for this purpose. Publication of research results is a key aspect for career advancement. The postdoctoral scholar will be encouraged to participate and also to lead in the writing of manuscripts for publication related to this research. Further training related to publications will be accomplished with peer review assignments of manuscripts under consideration with journals like Environmental Science and Technology and Abnospheric Environment as appropriate.

**Collaboration.** This proposal is a collaborative proposal with investigators from 2 institutions. The group of investigators will meet at the Desert Research Institute in the second year of the project to discuss project outcomes and research dissemination. This meeting will provide an informal setting for

the postdoctoral scholar to present results and discuss the various contributions to the overall project goals to detennine the chemical, physical, and optical properties of the aerosol from laboratory controlled combustion and aging of peat.

**Teaching.** (mentor)regularly teaches courses at Michigan Tech for graduate students from multiple disciplines including the Atmospheric Science Program for Ph.D. students. (postdoc name) will be encouraged to participate in teaching by preparing a few guest lectures for either Atmospheric Aerosol Chemistry or Advanced Mass Spectrometry as appropriate.

**Example 2**

**Postdoctoral Researcher Mentoring Plan**

**This Postdoctoral Researcher Mentoring Plan** has been prepared by <organization name>. The Plan establishes guidelines for work to be performed by a Postdoctoral Researcher in support of the NSF <SBIR or STTR> <Phase I or Phase II> Project Awarded to <company name>, entitled “<title of project>”. The Postdoctoral Researcher assigned to the project will work in <name/university> laboratory and will conduct research on <name tasks>.

**1. Orientation** will include in-depth conversations between <company researcher name> and the Postdoctoral Researcher. Mutual expectations will be discussed and agreed upon in advance. Orientation topics will include (a) the amount of independence the Postdoctoral Researcher requires, (b) interaction with coworkers, (c) productivity including the importance of scientific publications, (d) work habits and laboratory safety, and (e) documentation of research methodologies and experimental details so that the work can be continued by other researchers in the future.

**2. Career Counseling** will be directed at providing the Postdoctoral Researcher with the skills, knowledge, and experience needed to excel in his/her chosen career path. In addition to guidance provided by <post doc researcher name>, the Postdoctoral Researcher will be encouraged to discuss career options with researchers and managers at <university name> and with former students and colleagues of < post doc researcher name>.

**3. Experience with Preparation of Grant Proposals** will be gained by direct involvement of the Postdoctoral Researcher in proposals prepared by <company name>. The Postdoctoral Researcher will have an opportunity to learn best practices in proposal preparation including identification of key research questions, definition of objectives, description of approach and rationale, and construction of a work plan, timeline, and budget.

**4. Publications and Presentations** are expected to result form the work supported by the grant. These will be prepared under the direction of < post doc researcher name> and in collaboration with researchers at <company name> as appropriate. The Postdoctoral Researcher will receive guidance and training in the preparation of manuscripts for scientific journals and presentations at conferences.

**5. Teaching and Mentoring Skills** will be developed in the context of regular meetings within <university name> research group during which graduate students and postdoctoral researchers describe their work to colleagues within the group and assist each other with solutions to challenging research problems, often resulting in cross fertilization of ideas.

**6. Instruction in Professional Practices** will be provided on a regular basis in the context of the research work and will include fundamentals of the scientific method, laboratory safety, and other standards of professional practice. In addition, the Postdoctoral Researcher will be encouraged to affiliate with one or more professional societies in his/her chosen field.

**7. Technology Transfer** activities will include regular contact with researchers at <company name>. The Postdoctoral Researcher will be given an opportunity to become familiar with the university-industry relationship including applicable confidentiality requirements and preparation of invention disclosure applications.

**8. Success of the Mentoring Plan** will be assessed by monitoring the personal progress of the Postdoctoral Researcher through a tracking of the Postdoctoral Researcher’s progress toward his/her career goals after finishing the postdoctoral program.