POSITION DESCRIPTION

TITLE: MSE Project Scientist

GROUP: Maunakea Spectroscopic Explorer (MSE) Project Office

INCUMBENT: Alan McConnachie

REPORTS TO: Project Manager (Kei Szeto)

POSITION SUMMARY

Responsible for leading the scientific development of the MSE Project, and for developing and promoting an international base of support among science communities of MSE partners and prospective partners. The Project Scientist works in close collaboration with the Project Manager and Project Engineer, ensuring that MSE is designed, constructed and operated in a manner that will meet the aspirations of the MSE Science Communities as expressed by the top level MSE Science Requirements. The Project Scientist, through the commissioning process, verifies the scientific performance of the MSE observatory.

ESSENTIAL FUNCTIONS

1. Working together with the MSE Science Team and Science Advisory Group, the Project Scientist will maintain (and develop where necessary) the highest level formal documents that enunciate the scientific objectives of the MSE observatory. These documents include the Science Case, the Science Requirements Document, the Operations Concepts, and the Design Reference Survey, among others.

2. The Project Scientist provides science guidance and oversight within the Project Office in all areas that affect MSE science capabilities, in particular in the development of the MSE Science Calibration Plan, the MSE Program Execution Software Architecture, and the MSE Operations Plan.

3. Serves as the lead scientific MSE representative within the international astronomical community.

4. Interacts closely with the Spokesperson of the MSE Collaborative Board, on aspects of MSE’s scientific performance. Works with and supports MSE Management Group / Collaborative Board members in developing new partnership opportunities and in promoting MSE within current partner communities.

5. Provides scientific interpretation of Technical Requirements in all aspects of MSE development, to ensure that the MSE is designed, constructed and operated in a manner that meets the Science Requirements.

6. Working with the Science Team and the Science Advisory Group, the Project Scientist analyses changes in science capability to provide input from the science point of view into trade studies that contemplate changes to the scope of the observatory, as a means of reconciling budget and schedule.

7. Leads the development of the MSE Commissioning Plan.

8. The Project Scientist is the direct supervisor of the MSE System Scientist, as well as any other new scientist positions that are part of the Project Office, as assigned by the Project Manager.

9. Represent MSE scientific capabilities in the activities of the MSE Configuration Control Board.
10. Maintains active scientific interest and participation in relevant MSE-related scientific research. The Project Scientist should expect to spend 20% of his or her time on personal research programs.

11. Works effectively with others by sharing ideas in a collaborative, positive manner; listening to and objectively considering ideas and suggestions from others; keeping commitments; keeping others informed of work progress and issues; addressing problems and issues constructively to find mutually acceptable and practical solutions; and respecting the diversity of the CFHT workforce.

12. Maintains commitment to a high standard of safety, complies with all safety laws and CFHT safety policies/rules, and reports actual and potential safety violations to appropriate supervisory or management personnel.

OTHER DUTIES AND RESPONSIBILITIES

1. Performs other related duties as assigned by the Project Manager or requested by the MSE Collaborative Board.

MINIMUM QUALIFICATIONS AND REQUIREMENTS

1. Ph.D. in Astronomy, with an excellent record of research publications in peer-reviewed journals and international recognition within their field.

2. Strong and demonstrable leadership skills, including the management of large collaborations.

3. Excellent English verbal and written communication skills with demonstrable experience of effective communication within collaborations, and at all levels within the collaboration (scientific, technical, managerial, outreach).

4. Excellent presentation skills and presence.

5. Effective at meeting objectives in a relatively autonomous work environment, without close direct supervision; performing effectively as a team member, supporting and contributing to the project objectives, and using modern communication techniques to interact with the team when remotely situated.

6. Ability to synthesize detailed technical information to identify and understand consequences for scientific performance.

7. Due to the distributed international nature of the project, the Project Scientist must be able to work irregular hours and to travel internationally frequently.

8. Ability, certified by a physician, to perform duties effectively and safely at the site of the CFH telescope, characterized by an altitude of 4200 meters, low temperature and low humidity.

DESIRABLE QUALIFICATIONS

1. Previous experience with scientific instrumentation or facility development, including extensive interactions with technical and management teams.

2. Ability to communicate in other partner languages.
3. Experience with the activities and operations of an astronomical research observatory.

4. Ability to drive a four-wheel-drive vehicle to the CFH telescope site, on a partly unpaved mountain road, during the day and at night.

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed above are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.