May 01, 2017

**Alia Harrison** *IIASA – Human Resources Schlossplatz 1 A-2361 Laxenburg* 

Dear Madam,

I am writing to apply for the position of Postdoctoral Research Scholar - Remote Sensing of land cover and land-use, advertised on the web appearance of the IIASA. Currently, I am working on my PhD thesis concerned with digital terrain analysis to support soil survey at the Institute of Geography of the University of Innsbruck, Austria.

Remote sensing and geographic information science have been my area of research ever since getting involved with these topics at the Institute of Applied Geology at the University of Natural Resources and Life Sciences (BOKU), Vienna. There, satellite imagery and its derivatives played an important role in mapping geomorphological hazards and the land-use of vulnerable areas. The multi-temporal analysis of the extent of glacial lakes was vital for assessing regional geohazards in Tajikistan, together with the application of DINSAR with ENVI-Sarscape to detect mass movements in smaller study areas. The application of remotely sensed data is continued in my research at the Institute of Geography of the University of Innsbruck, mainly in the form of digital elevation information. Here I focus on terrain analysis using Open Source landform classification algorithms and python scripting, as well as applying statistical learning approaches within the statistical computing environment R. Inside the context of digital soil mapping, land-use information persisted to be of relevance, being an essential environmental variable for analysing the spatial distribution of soils.

The research with regard to the formation and distribution of soils, be it through field survey in South Tyrol or soil modelling in the office, has increased by awareness of the interconnectivity between soil and land-use and consequently strengthened my interest in sustainable agriculture. This is a major reason why I am intrigued by the position at the Ecosystems Services and Management Program. It poses the possibility to advance my research into delineating and mapping spatial units of interest, and at the same time enter a new field of research that I find highly interesting and essential at a personal as well as scientific level.

I have enclosed a resume and references, and would enjoy discussing this position at your convenience. Should you require any additional material or information, I am happy to supply it. Thank you for your consideration.

Yours faithfully,

Fabian E. Gruber

Attached: resume and references