Open PhD positions in satellite image processing at Xiamen University, Xiamen, Fujian 361005, China

The PhD students will enter the PhD Program in Information and Communication Engineering at the School of Information Science and Engineering, Xiamen University, Xiamen, Fujian 361005, China, leading to the degree of PhD within a time frame of 3-4 years. The student will carry out scientific and technical tasks within the Remote Sensing & Spatial Informatics (RSSI) Lab (http://rssi.xmu.edu.cn) at Xiamen University. The start date for this position is September 2013. The scholarship will be provided for covering the tuition and living expenses.

Background

The RSSI Lab develops, validates and applies innovative and robust techniques and system analysis approaches for the processing, interpretation, and analysis of satellite images both optically and actively sensed by multi- and hyper-spectral scanners, synthetic aperture radar (SAR) sensors. Applications fields are related to remote sensing of coastal and marine waters, urban mapping, environmental monitoring, post-disaster damage assessment, and applications in transportation, energy, forestry and agriculture. The RSSI team's research is focused on the development of novel image processing algorithms and methods which are of interest to our application fields. This research combines the knowledge of both satellite optical and SAR image processing with novel analysis techniques aimed at deriving quantitative information for relevant application contexts (e.g. urban land use/cover change detection, global change, environmental monitoring). Adaptation of image processing techniques to very high resolution (VHR) satellite images (e.g., IKONOS, QuickBird, GeoEye), fusion of VHR optical images with satellite SAR imagery (e.g., RADARSAT-2, TerraSAR-X, COSMO-SkyMed, ALOS PALSAR) for feature extraction and fast GPU code implementation are some of the foci of the current work.

Required knowledge and skills

✧ Suitable applicants should have a master's degree or equivalent in Geomatics (particularly photogrammetry and remote sensing) or other related analytical disciplines (e.g., computer science).

✧ Experience in computer programming (C++, MATLAB, ENVI/IDL), image processing and analytical techniques for data analysis such as least-squares error modeling. Algorithms and software development will be central to the success of the research.

✧ Knowledge of image processing software (e.g., PCI Geomatica, ERDAS, ENVI) for optical remotely sensed data analysis and GIS software (e.g., ArcGIS) is an asset.

✧ The applicant should be a pro-active researcher, team player, adaptability to a multicultural environment, good written and spoken English.

Main duties

✧ To elaborate, implement, and validate novel and effective VHR image processing and analysis methodologies supporting the thematic applications developed at RSSI Lab;

✧ To contribute to the development of the RSSI team's image processing libraries;

✧ To participate in the implementation of shared experiments and building of reference data sets;

✧ To participate in the organization of workshops;

✧ To collaborate with other research laboratories (e.g. through scientific collaboration agreements);

✧ To publish research results and case studies in peer reviewed literature.

We are inviting applications from outstanding candidates interested in contributing to our LiDAR research activities. The successful candidate shall focus on the development of new and effective methodologies for the processing and analysis phf airborne and terrestrial mobile LiDAR data. He/she will complement the team's expertise in image processing, feature extraction, 3D surface/object reconstruction, geospatial analysis and innovative applications. The electronic application must contain a cover letter, CV, scanned copies of transcripts, publications and other relevant work, as well as 3 references. The application should be sent to Prof. Dr. Jonathan Li by email at junli@xmu.edu.cn, before May 1, 2013.