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KUFOS HQRS,Panangad, Ernakulam



**KERALA UNIVERSITY OF FISHERIES & OCEAN STUDIES**  
**കേരള ഫിഷറീസ്-സമുദ്രപഠന സർവ്വകലാശാല**  
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GA11/327/2023  
Dated, .02.2023

Panangad,

e- TENDER NOTICE

E- tenders are invited for the “Procurement of Envi Licenses (for 10 above users) for Department of Climate Variability & Aquatic Ecosystems, FOST, KUFOS ” with specification as per attached documents.

The Tender should be submitted as e- tender in the e- procurement portal of Kerala Government with detailed specification, Tender fee of Rs.20,100/- and EMD of Rs.1,37,234/- by means of e- Payment. The GST amount of the tender fee @18% should be remitted to the GST department directly by the bidder. More details will be available in the Office of Dr. Girish Gopinath, Associate Professor & Head, Department of Climate Variability & Aquatic Ecosystems, FOST, KUFOS, Panangad, on all working days with the permission of undersigned. As per DSIR registration, necessary exemption can be availed for customs & excise duties for the purchase. Our GST Regn. No. is: 32AAAGK0031Q1ZL.

All the terms and conditions applicable to University/Government quotations/ Tenders are applicable to this Tender also. Right to accept the Tender in full or in part or to reject without assigning any reason is reserved to the undersigned.

**REGISTRAR**  
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To : Firms

Copy to : Dean FOST/ Dr. Girish Gopinath, Associate Professor & Head, Department of Climate Variability & Aquatic Ecosystems, FOST, KUFOS, Panangad through Dean FOST / Programmer to Publish on the Website

Sl No	Product	Qty
1	ENVI Basic Academic latest Version – mini Lab Kit	10 & above users

**Specifications:**

Panangad P.O. 682 506, Kochi, Kerala, India. Phone : 91 484 2700964; Fax : 91 484 2700337

Email :- [utypanangad@kufos.ac.in](mailto:utypanangad@kufos.ac.in)



**Product: ENVI Basic Academic latest Version -mini Lab Kit for 10 users and above  
Functionality Matrix for image Processing Software:ENVI**

Sl. No.	Functionality Matrix
1	<p><b>Software should support the below mentioned rasters and vectors:</b>  DPPDB, ECRG, GRIB-1, GRIB-2, HDF5, IAS, JPEG, JPIP, LAS, HDF4, Multi-page TIFF, NetCDF-4DIMAPV2, USGS  SDTS DEM, XWD, CADRG, CIB, DTED, ENVI raster, ER Mapper, IMG, Esri® Enterprise Geo database (.sde), GeoTIFF, JPEG2000, PCI, TIFF, Sensor Support: Cartosat, IRS (fast &amp; super structure), ResourceSat-1 (Fast &amp; Super Structured), ResourceSat-2 (HDF5), Deimos-1 &amp; 2, Gaofen-1, UK-DMC 1/ 2, DMC ALSAT-1, ENVISAT AATSR/MERIS, EO-1 ALI (HDF4), DubaiSat-1 (RAW) &amp; 2, Land sat 9, Landsat 8 (OLI &amp; TIRS), Land sat NLAPS, Landsat MRLC, RASAT, NPP VIIRS, Proba-V, TIMS, Sentinel-2, SkySat-1 &amp; 2, Google Skybox, Ziyuan-1-02C &amp; 3A, Sea WiFS, Quick Bird, Worldview 1 – 2 &amp; 3, VNREDSat-1, , Beijing-1, NigeriaSat-1 &amp; 2, Geo Eye, IKONOS. Video formats: Adobe Flash (f4v, flv), SWF, GIF, MOV, AVI, Google WebM Matroska (WEBM), Matroska Video (mkv), Motion, JPEG (mjpeg, mjpg), Motion JPEG2000 (mj2), MPEG (mpeg, mpg, mp1, m2v, ts, mp2, mpg2, mpeg2, mpv, m2v, 3gp, 3g2, h264, mp4, mpeg4, mpg4), SuperView-1: Level-1 Band Level-2 Amultispectral and panchromatic data</p>
2	<p><b>Classification:</b>  Adaptive Coherence Estimator (ACE), Constrained Energy Minimization (CEM), Decision Trees, Independent Components Analysis (ICA), Orthogonal Subspace Projection (OSP), Mixture Tuned Target-Constrained Interference - Minimized Filter (MTTCIMF), Supervised Classifications: Binary Encoding, Maximum Likelihood, Spectral Information Divergence (SID), Support Vector Machine (SVM), TERCAT (Terrain Categorization), Target-Constrained Interference - Minimized Filter (TCIMF), Post Classification Analysis: Kappa Coefficient, Confusion Matrix, Class Statistics, Receiver Operating Characteristic (ROC) Curves: Find Optimal Classification Thresholds, Receiver Operating Characteristic (ROC) Curves: Decrease False Classifications</p>
3	<p><b>Hyper spectral Analysis:</b>  Sensor Support: AISA, ARTEMIS (with license), AVIRIS, CASI, HyMap, Hyperion, Hyper Scan, Hy Spex, MIVIS, PROBE-1, Analysis: Tactical Hyper spectral Operations Resource (THOR) workflows (Anomaly Detection, Atmospheric Correction, LOCs - Water and Trails, Stressed Vegetation, Target Detection, Stressed Vegetation, Material Identification) Minimum Noise Fraction (MNF), Pixel Purity Index (PPI), Automated Corner Clustering in N-D Scatter Plot, N-Dimensional Visualizer, Spectral Library: ASTER, JPL, USGS, IGCP, Import new versions of the above libraries. Classifications: Spectral Angel Mapper (SAM), Spectral Feature Fitting (SFF), ACE, CEM, SVM, Matched Filtering, Mixture Tuned Matched Filtering, Continuum Removal.</p>
4	<p><b>Mathematics &amp; Statistics</b>  Autocorrelation, Band Math and Spectral Math: Boolean Operators, Trigonometric Functions, Data Type Conversion Functions, Relational Operators. Correlograms, Image statistics: Band Minimum, Maximum, Mean, Standard, Covariance Matrix, Correlation Matrix, Eigenvectors, Semivariograms</p>
5	<p><b>Transformation:</b>  Adaptive Coherence Estimator (ACE), De correlation Stretch, Forward and Inverse Independent Components Analysis (ICA), Forward and Inverse Minimum Noise Fraction (MNF), PCA, Inbuilt Band Ratio: Burn Area Index, Clay Minerals Ratio, Ferrous Minerals Ratio, Iron Oxide Ratio, Normalized Burn Ratio, Normalized Burn Ratio Thermal1, Normalized Difference Built-Up Index,</p>



	Normalized Difference Snow Index, WorldViewBuilt-UpIndex,WorldViewNewIronIndex,WorldViewNon-HomogenousFeatureDifference,WorldViewSoil Index, Ligningindex, Anthorcyaninindex
6	<p><b>Pre-processing &amp; Calibration</b>          Apply Gain &amp; Offset, Bad Band Identification, Bad Line Replacement, Bad Pixel Replacement, Cross-Track Illumination Correction, Dark Subtraction, Destripe Data, Empirical Line Calibration, ERS and Radarsat          DataCalibration,Emissivitycalculation,FlatFieldCalibration,IgnorePixelValue,InternalAverageRelative          Reflectance correction, Calibration, Log Residuals, MODIS Bowtie Correction, FLAASH          Atmospheric Correction, Thermal Atmospheric Correction, QUAC</p>
7	<p><b>Registration &amp; RPC Ortho-rectification:</b></p> <ul style="list-style-type: none"> <li>• Image-to-Map &amp;Image-to-Image Registration</li> <li>• Interactive/Automatic Ground Control Point Generation</li> <li>• Subpixel Ground Control Point Location</li> <li>• Automatic            Georeferencing:ASTER,AVHRR,AATSR,ASAR,MERIS,MODIS,Radarsat,SeaWiFS,SPOT, Cosmo-SkyMed</li> <li>• Orthorectification (RPCs): Aerial Photographs (Digital and Frame), ASTER, CARTOSAT-1, Generic Push broom Sensors, IKONOS, OrbView-3, GeoEye-1, Worldview, FORMOSAT-2, Komsat-2, Quickbird,SPOT1-5, Rapid Eye</li> <li>• Replacement Sensor Model(RSM)</li> </ul>

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