43rd Asian Conference on Remote Sensing (ACRS2022)

Ulaanbaatar, Mongolia
3 - 5 October 2022

Volume 1 of 2

Day 1: 3rd October 2022 (Monday)

Mongolian Time (UTC+8)	Contents
10:00-11:00	**Opening Ceremony -** *Dr. M. Saandari, General Chair of ACRS 2022 Local Organizing Committee (LOC)*
	Opening Speech: His Excellency Dr. N. Uchral, Minister of Digital Development and Communications *(ZOOM Live)*
	Welcome Address: Prof. Kohei Cho, General Secretary, AARS
	Welcome Address: Prof. Lena Halounova, President, ISPRS
	Welcome Address: Dr. Paul Rosen, Director of IEEE-GRSS Global Activities
	Welcome Address: Academician D. Regdel, President of MAS
	Welcome Address: Dr. J. Gurragchaa, Cosmonaut of Mongolia
	Introduction of Geomixer @ACRS2022, Laxmi Thapa, President, ISRPS SC
	Mongolian Cultural Performance /Morin khuur & Urtiin Duu/
11:00-11:30	*Refreshment break*
11:30-12:30	**Plenary Session (MAS Meeting Room + ZOOM Webinar)** *Chairpersons: Prof. Kohei Cho, Dr. B. Suvdantsetseg, Mongolian Academy of Science (MAS)*
	Keynote Speaker 1: Remote Sensing Application in Mongolia - *Dr. M. Saandari, MonMap LLC, Mongolia*
	Keynote Speaker 2: History and Development of Remote Sensing and Geospatial Technologies in Mongolia - *Academician D. Amarsaikhan, The Institute of Geography and Geo-ecology, MAS*
12:30-13:30	*Lunch break*
13:30-15:30	**JAXA's tutorial session - Earth Observation Dashboard for Climate Change Study and Socio-Economic Applications /ZOOM Webinar/**– *Moderator Dr. Kei Oyoshi, JAXA*
	Opening Remarks - *Dr. Sinichi Sobue (JAXA)*
	Introduction of Earth Observing Dashboard and RACE Dashboard (video) - *Ms. Anca Anghelea (ESA)*
	Introduction of NASA Dashboard *(video)* - *Dr. Maskey Manil (NASA)*
	Lecture and hands on Session of JAXA Dashboard with OGC WMS/WMTS - *Dr. Michihiro Koide (RESTEC)*
	Lecture and hands on Session of JAXA Earth API - *Mr. Yoshinobu Sasaki (JAXA)*
	Questions and Answers / Discussions - *Dr. Pegah Hashemvand (RESTEC)*
15:30-16:00	*Refreshment break*
16:00-18:00	**PARALLEL SESSIONS (oral presentations, ZOOM Meeting) Session 1-4**
18:00-19:00	GeoMixer @ACRS2022 (Zoom Created by GeoMixer)
	Introduction of Geomixer, *Sheryl Rose, ISPRS SC including Ladies of Landsat and Sisters of SAR*
	Welcome address, *Prof. Kohei Cho, AARS*
	Welcome address, *Mr. L. Ochirkhuyag, CIO of Mongolian Geospatial Association /LOC of the ACRS2022/*
	Break-out sessions for professional networking

PARALLEL SESSIONS (3rd October 2022)

Session 1: Sensor and Platforms *(Room A1: MAS Meeting Room + ZOOM Meeting)*

Chairpersons: Dr. B. Suvdantsetseg, MAS and Dr. Sameer Saran, ISRO, India

Time	Page	Title	Speaker
16:00-16:15	1	Standard Operation Procedure Development of FORMOSAT-2/5 Analysis-Ready Data	Tun-Yu Liao
16:15-16:30	11	Terrain Shadow Detection from Rapid-Eye Images Based on Hillshade Algorithm	Hyeonggyu Kim
16:30-16:45	20	Remote Sensing Image Forgery Detection Using Modified U-Net	Himali Patil
16:45-17:00	26	Structural Feature Study of Khalzan-Tsakhir Ree Bearing Ore Zone Using Optical and Microwave Remote Sensing	S.Jargalan
17:00-17:15	33	Automated Registration of Heterogeneous Satellite Images Using Feature Matching	Seunghwan Ban
17:15-17:30	35	Dissect the Impact of Dem with Different Sources on the Performance of Establishing Species Distribution Models	Chin-Jin Kuo
17:30-17:45	45	Assessing the Effectiveness of Flood Control Structures in Las Nieves, Agusan Del Norte Using UAS-Generated Elevation Models, Lidar DTM and Flood Simulation Models	Kendel P. Bolanio
17:45-18:00	55	HD-Map Assisted Lane Marking Worn Out Detection from MMS Data	Chia-Yu Lee

Session 2: Environmental Domain *(Room A2: National Agency Meteorology and Environmental Monitoring (NAMEM) Meeting Room+ ZOOM Meeting)*

Chairpersons: Dr. N. Lkhagvadorj, National Remote Sensing Center of Mongolia and Prof. Husi Letu, Chinese Academy of Sciences

Time	Page	Title	Speaker
16:00-16:15	60	A Study on Beach Vegetation Classification by Using CNN on the Nijigahama Beach in Japan	Seiji Ito
16:15-16:30	67	Distribution of Vegetation Growth Abnormality by NDVI's Responses to Precipitation in Mongolia, 2001 to 2020	YAN Guanyu
16:30-16:45	68	Monitoring Vegetation Change and Its Potential Drivers in Mongolia from 2000 to 2018	Yune La
16:45-17:00	75	The Estimation of Above Ground Biomass of Forest Stand in the District of Borobudur, Central Java, Indonesia	Munawaroh
17:00-17:15	84	The Effect Topography in Prediction of Wheat Yield	B.Erdenetuya
17:15-17:30	95	Vegetation Indices for Harumanis Using Multispectral Data	Siti Noor Syazwani binti Zakaria

Time	Page	Title	Speaker
17:30-17:45	104	Continuous Seagrass Density Estimation Using Sentinel-2 Imagery on an Intertidal Flat	Xuan Truong Trinh
17:45-18:00	106	Mapping the Burned Area of Muli Forest Fire Using Multiple Machine Learning Algorithms Based on Landsat-8 Images	Chaoyu Huang

Session 3: Algorithm and Image Processing *(Room A3: National University of Mongolia + ZOOM Meeting)*

Chairpersons: Dr. R. Tsolmon, NUM-ITC-UNESCO Laboratory for Space Studies and Remote Sensing and Mr. L. Ochirkhuyag, Mongolian Geospatial Association

Time	Page	Title	Speaker
16:00-16:15	116	Comparison of Topographic Correction Methods for Sentinel-2 Imagery	Won-Woo Seo
16:15-16:30	118	Roadkill Probability Modelling for Malayan Tapir Based on Land Cover Changes Using Time-Series of Landsat Imagery	Muhammad Daniel Iman Bin Hussain
16:30-16:45	128	Quality Assessment of Fused Images by Visualization of Uncertainty Characteristics	Neema Nicodemus Lyimo
16:45-17:00	138	Pole Inclination Angle Determination from Mobile Laser Scanning Data with The Assistance of High-Definition Map	Yi-Jhen Yang
17:00-17:15	147	Assessing and Analyzing the Correlation Between Crime and Built-Up Index Using Multi-Temporal Landsat Images in Peninsular Malaysia	Noryusdiana Mohamad Yusoff
17:15-17:30	157	Quantification of Total Suspended Sediment in Muda Dam Using Multi-Temporal Landsat Operational Land Imager (OLI)	Maizatuldura Mohd Isa
17:30-17:45	167	Efficient Image Matching Using IMU Stereo Camera in SFM/MVS	Masafumi Nakagawa
17:45-18:00	171	Feature Extraction and Classification of Hyperspectral Data of Mongolia Using Machine Learning Methods	D.Amarsaikhan

Session 4: Geographic Information Systems (GIS) and Web GIS *(Room A4: MonMap LLC Training Room + ZOOM Meeting)*

Chairpersons: Dr. B. Javzandulam and Ms. E.Michelle, MonMap LLC

Time	Page	Title	Speaker
16:00-16:15	177	Detection of Residential and Water Areas in Historical Topographic Maps of Japan Using U-Net	Ami Ogita
16:15-16:30	185	Spatial Pattern Analysis of Food Service Locations in Five Major Cities in Indonesia	Falia Nurnabila
16:30-16:45	193	Geographic Information System-Based Land Suitability Analysis and	Sarah Joy A.Acepcion

		Multi-Hazard Mapping for Potential Urban Development Sites In A State University In Romblon, Philippines	
16:45-17:00	199	A Research on Socioeconomic Indicators for Better Understanding the Motivators of the Fellow Countrymen Associations in Bursa	Melek Gokmeydan
17:00-17:15	206	Cross-Sectional Association Between Walking Activity of Residents and Their Accessibility to Different Building Uses	Serge Garrigue
17:15-17:30	214	The Potential of Tourist Attractions and The Optimum Travel Routes in Chainat Province	Kulapramote Prathumchai
17:30-17:45	222	Distance Analysis Between Service Facilities and Tourism Sites in Indonesia: Are There Differences in Distance Characteristics Between Tourism Categories?	Eirinne Carenina de Poere
17:45-18:00	232	Investigating Greenery in Urban Street Perspective Using Street View Images	Zhang-Xiu Luo

Day 2: October 4, 2022 (Tuesday)

Mongolian Time (UTC+8)	Contents
08:15 – 08:45	*Registration and Preparation - LOC*
08:45 – 10:00	**Technical Exhibition (ZOOM Webinar) -** *Chairpersons: Dr. M. Saandari, MonMap LLC, Mr. L. Ochirkhuyag, Mongolian Geospatial Association (MGA)* • 08:45 – 09:00 21 AT, China – 15 min • 09:00 – 09:30 Planet Labs, USA – 30 min • 09:30 – 09:45 PIESAT, China – 15 min • 09:45 – 10:00 PASCO, Japan – 15 min
10:00-10:30	*Refreshment break*
10:30 – 12:30	**PARALLEL SESSIONS (oral presentations) Session 5-9**
12:30 – 13:30	*Lunch Break*
13:30 -14:30	**Plenary Session (MonMap LLC Meeting Room + ZOOM Webinar)** *Chairpersons: Prof. Kohei Cho, Dr. E. Bayarmaa, Mongolian University Science and Technology (MUST)*
	Keynote Speaker 3: Earthquake Forecasting using Remote sensing techniques - *Prof. Shunji Murai, Japan*
	Keynote Speaker 4: Planetary Remote Sensing - *Dr. Prakash Chauhan, CSSTEAP, India*
14:30-16:30	**PARALLEL SESSIONS (oral presentations) Session 10-14**
16:30-18:30	**AARS General Conference (Host by AARS, only for AARS Members)**

Earthquake Forecasting using Remote sensing techniques - *Prof. Shunji Murai, Japan*

Session 5: Remote Sensing for Cartography and Mapping *(Room B1: MonMap LLC Meeting Room + ZOOM Meeting)*

Chairpersons: Dr. B. Javzandulam, MonMap LLC and Dr. Manzul Hazarika, AIT, Thailand

Time	Page	Title	Speaker
10:30-10:45	241	Visualization and Object Recognition of Construction Space Using Dual 3D Laser Scanners Mounted on Construction Vehicle	Gai Ozaki
10:45-11:00	250	Positioning and Trajectory Interpolation Using SLAM And PPP-RTK for River Mapping	Kimura Naoto
11:00-11:15	256	Performance Evaluation Of GNSS/Visual Odometry-Based Positioning and Ranging Systems on UAV for Infrastructure Inspection	Kazuha Saito
11:15-11:30	262	Preliminary Experiments on Point Cloud Acquisition Toward a Groundbreaking Surveying for Lunar Base Construction	Arata Nagasaka
11:30-11:45	270	Validation of Precipitable Water Estimated by Using Cost-Effective GNSS Receiver System	Taiki Takeda

Time	Page	Title	Speaker
11:45-12:00	278	Automated Sensor Orientation Establishment for Mid-Resolution Satellite Images	Hyeon-Gyeong Choi
12:00-12:15	281	Comparison of Various DSMS Derived from UAV Images Towards True Orthorectification of Satellite Images	Seunghee Kim
12:15-12:30	283	Development of an IoT-Enhanced Telepresence System Based on SLAM and VR	Chen-Qi Peng

Session 6: Geological Remote Sensing Application *(Room B2: Mongolian University of Science and Technology (MUST) E-library + ZOOM Meeting)*

Chairperson: Dr. A. Bayasgalan, Mongolia and Dr. M. Bilguunmaa, Toyama Prefectural University, Japan

Time	Page	Title	Speaker
10:30-10:45	N/A	Geological Structures of Lugiin Gol Area, South Mongolia, Using Optical and Microwave Remote Sensing	D. Khashbat
10:45-11:00	286	Importance of Space Data to Study Earthquakes Risk in Arabian Rift Zone	Mohamad Rukieh
11:00-11:15	296	Development of Shoreline Detection Module Using Remotely Sensed Imagery by Deep Neural Networks and Geomorphology Techniques	Yun-Jae Choung
11:15-11:30	299	Anomaly Detection with Autoencoder for Concrete Deformation Extraction from Images	Tetsu Yamaguch
11:30-11:45	305	Integrating GIS and Earth Observation Data in Assessing Land Subsidence Caused by Large Seismic Movements: A Case In Surigao City, Mindanao, Philippines	Arnaldo C. Gagula
11:45-12:00	315	Sentinel-1 Based Ground Deformation Monitoring over Active Open-Cast Mining Area in Tubay, Agusan Del Norte, Philippines Using Stamps/MTI Analysis	Monalaine M. Bermoy
12:00-12:15	324	Determination of Potential Water Pond Location using ArcHydro Model and Suitability Assessment	Byambasuren Damdin
12:15-12:30			

Session 7: Environmental Domain *(Room B3: Mongolian University of Life Sciences (MULS) + ZOOM Meeting)*

Chairpersons: Dr. M. Khishigjargal, MULS, and Dr. D. Tuvshinbayar, MULS

Time	Page	Title	Speaker
10:30-10:45	336	Object-Based Classification of Land Cover Types Using Lidar and Satellite Images	Jargaldalai Enkhtuya
10:45-11:00	342	Relationship Analysis Between Forest Aboveground Biomass and Vegetation Indices Using Sentinel-2 Data	Tsolmon Altanchimeg

Time	Page	Title	Speaker
11:00-11:15	349	Mapping Sand and Gravel Extraction Activities and Evaluating Their Impacts on River Geometric Characteristics in Cabadbaran City Using Remote Sensing	Lorie Cris S. Asube
11:15-11:30	356	Mapping The Spatial Distribution of Urban Heat Islands in Darkhan and Erdenet Cities, Mongolia	Byambadolgor Batdorj
11:30-11:45	363	Effects of Landsat-8/OLI Data Collection Level on Estimation of the Chlorophyll-A Concentration	Yoshinari Oguro
11:45-12:00	370	Mapping of Aquaculture Rafts from Geoeye-1 Using U-Net	Tatsuyuki Sagawa
12:00-12:15	377	Analysis Of Vegetation Indices for Pasture Biomass Evaluation Using Multi-Temporal Satellite Images and UAV Data	Jargaldalai Enkhtuya
12:15-12:30	382	Accuracy Verification Methodology of Water Borne Lidar-SLAM Using CLAS Positioning	Rikako Shigefuji

Session 8: Cloud Computing, Big data and AI in Remote Sensing *(Room B4: MAS Meeting Room + ZOOM Meeting)*

Chairpersons: Dr. A. Munkh-Erdene, Institute of Mathematics and Digital Technologies, MAS and Prof. Taejung Kim, Inha University, Korea

Time	Page	Title	Speaker
10:30-10:45	388	Performance Comparison Between Convolutional Neural Network and Supervised Multiresolution Segmentation for Actual Paddy Planted Area	Zainal Abidin Hasan
10:45-11:00	397	Comparison of Support Vector Machine (SVM) And Maximum Likelihood Classification (MLC) for Nipa Palm (Nypa Fruticans) Extent in East Coast of Sabah, Malaysia	Mckreddy Yaban
11:00-11:15	405	Dimension Reduction with Principal Component Analysis in Hyperspectral Image Classification Using Machine Learning	Saziye Ozge Atik
11:15-11:30	411	Evaluation of Machine Learning Based Algorithms for Determining Land Cover Change with Multi-Temporal Sentinel-2 Satellite Images	Yaren Ketenci
11:30-11:45	419	Uncovering the Spatial Patterns of Invasive Species Via Machine Learning on Multi-Temporal Drone Images	Hao Yuan Hung
11:45-12:00	429	Evaluation of Principle Component for Land Cover Discrimination Using Object-Based Classification	Nyamjargal Erdenebaatar
12:00-12:15	436	Land Cover Mapping in Camau Province by Machine Learning Algorithms Using Sentinel-2 Imagery	Tran Van Anh
12:15-12:30			

Session 9: Environmental Domain *(Room B5: NUM-ITC-UNESCO Laboratory for Space Studies and Remote Sensing + ZOOM Meeting)*

Chairpersons: Mr. L. Ochirkhuyag, Mongolian Geospatial Association and Dr. Fuan Tsai, National Space Organisation (NSPO), Taiwan

Time	Page	Title	Speaker
10:30-10:45	446	Geo-Informatics Platform for The Spatial Holistic Management of The Pm2.5 In Thailand	Pakorn Petchprayoon
10:45-11:00	455	Land Cover Change Analysis for Bayankhongor Province in Mongolia	Oyunbileg Erdenebadrakh
11:00-11:15	465	Analysis of Water Yield Service of Citarum Watershed Based on Ecosystem Services	Jaka Suryanta
11:15-11:30	476	Watershed Management Prioritization in Tea Land Uses: A Case Study in Badulu Oya Sub-Watershed of Mahaweli Basin	Nisansala S. Withanage
11:30-11:45	486	The Responses of Vegetation to Climatic Fluctuations Using Time-Series MODIS Data in A Subtropical Mountain Cloud Forest	Hsueh-Ching Wang
11:45-12:00	490	Analysis Of Land Surface Change Over the Tsambagarav Ridge Using the Pixel Quality Assessment Band of The Landsat Data Product	Kenta Taniguchi
12:00-12:15	492	Impact of Urban Induced Heat on The Lightning Activity of Sri Lanka: Colombo and Suburbs	Panchali Fonseka
12:15-12:30	502	Assessment Of Combined Drought Index (CDI) For Drought Monitoring in The Philippines During The 2018-2019 El Niño	Michael Angelo Valete

14:30 – 16:30 PARALLEL SESSIONS (oral presentations)

Session 10: Sensor and Platforms *(Room C1: MAS Meeting Room + ZOOM Meeting)*

Chairpersons: Dr. S. Demberel, Institute of Astronomy and Geophysics, MAS, and Mr. Kh. Enkhmanlai, Ministry of Digital Development and Communications

Time	Page	Title	Speaker
14:30-14:45	512	Boresight And Lever Arm Calibration of Lidar System Using Corresponding Points for Ground Control Points	C.W Kim
14:45-15:00	517	A Study to Improve the Segmentation Result for VHR Satellite Imagery Using PCA Technique	Jiyoon Moon
15:00-15:15	518	Street Tree Extraction Based on Vehicle Lidar Point Cloud	Fanyang Zeng
15:15-15:30	523	Effective Band of SPOT-7 for Landslide Detection Using U-Net	Tomohisa Konishi
15:30-15:45	529	Analysis of Time Series Satellite Images for Pasture Area in Kawatabi Filed Science Center, Osaki City, Japan	Muxiye
15:45-16:00	531	Optimization of Tiepoint Extraction for Rapid UAV Image Mosaicking	Min-Kyu Park
16:00-16:15	533	Age Estimate of Akamura Mounded Tomb Groupe and Location Estimate of Yamatai Country	Susumu Ogawa
16:15-16:30	541	Conjugate Trajectory and Its Uncertainty of Flat-Refractive Stereo-Pair in Multi-Media Environment	Szu-Han Wang

Session 11: Cloud Computing, Big Data and AI in Remote Sensing *(Room C2: Mongolian University of Science and Technology (MUST) E-library + ZOOM Meeting)*

Chairpersons: Mrs. E. Bayarmaa, Mongolian Geospatial Association, and Dr. G. Ulziisaikhan, MUST

Time	Page	Title	Speaker
14:30-14:45	548	A New Spectral Index to Characterize Solar Photovoltaic Panels for Sentinel-2 Data	Shoki Shimada
14:45-15:00	550	Understanding Multispectral Satellite Image Land Cover Classification with the Deep Learning	Wei-Zhen Lin
15:00-15:15	554	Digital Twin Generation of Caraga State University's Honorable Elisa R. Ochoa (H.E.R.O) Learning Commons Using Unmanned Aerial Systems (UAS)	Jun Love E. Gesta
15:15-15:30	562	Development of Prediction Method for Agricultural Land Using Time Series Analysis in Dornod, Mongolia	Davaajargal Jargalsaikhan
15:30-15:45	572	Mobile Point Cloud Semantic Segmentation Using Artificial Neural Network and Appropriate Parameter Determination	Muhammed Enes Atik
15:45-16:00	578	Comparative Study of Deep Learning Models In Multi-Label Scene Classification	Saziye Ozge Atik

Time	Page	Title	Speaker
16:00-16:15	584	A Projection-Based Point Cloud Semantic Segmentation Approach Using Deep Learning And 3D Geometric Features	Muhammed Enes Atik
16:15-16:30	590	Development status of TEMUULEL 1U CubeSat project	Turtogtokh Tumenjargal

Session 12: Environmental Domain *(Room C3: National Agency Meteorology and Environmental Monitoring (NAMEM) Meeting Room+ ZOOM Meeting)*

Chairpersons: Dr. M. Erdenetuya, Mongolian Geospatial Association and Dr. T. Battsetseg, National Remote Sensing Center of Mongolia

Time	Page	Title	Speaker
14:30-14:45	591	Spatial Analysis and Characterization of Dust Particles Using Remotely Sensed Data and Its Effects on Solar PV Power Production: Case of The Philippines	Ma. Divina Angela Bauzon
14:45-15:00	601	Research on the Spatiotemporal Distribution of XCO2 Emissions Based on GOSAT Satellites in China	Xinyan Hou
15:00-15:15	606	Exploring Land Cover Transition to Solar Farms and Its Impact on Nighttime Lights Using RS And GIS	Jeark Principe
15:15-15:30	613	Assessment Of Flowering Pattern Using Climatic Remote Sensing Data in Peninsular Malaysia	Mohamad Hanif Bin Abdullah
15:30-15:45	620	Detection of Submerged Aquaculture Raft by Drone-Based Multispectral Camera	Hiroki Murata
15:45-16:00	629	GIS-Based Approach in Estimating Carbon Emission Attributed by Land Use and Land Cover Dynamics in Butuan City, Philippines	Antonietto Cacayan Jr
16:00-16:15	639	Time-Series Analysis of Air Quality in Major Cities in The Philippines During The COVID-19 Pandemic Through Sentinel-5	Cara Patricia Canlas
16:15-16:30	649	Research on Observation of Carrot Growth Stage Using UAV Multispectral Camera and Application To Field Management	Shintaro GOTO

Session 13: Disaster Monitoring and Prevention *(Room C4: MonMap LLC Training Room + ZOOM Meeting)*

Chairpersons: Dr. B. Javzandulam, MonMap LLC and Prof. Peter Shih, NYCU

Time	Page	Title	Speaker
14:30-14:45	659	Synergy of Radar and Optical Images for Vegetation Damage Assessment of Super Typhoon Rai in Severely Affected Areas of Caraga Region, Philippines	Jonel G. Vernante
14:45-15:00	667	Monitoring the Recovery of the Tsunami Damaged Areas Using Satellite	Kohei Cho

Time	Page	Title	Speaker
		Observation and Ground Survey for Environmental Education	
15:00-15:15	677	Developing Thailand Wildfire Prevention Decision Support System	Jirapast Buntub
15:15-15:30	687	Disaster Area Detection by Deep Learning Using UAV and Satellite Imagery	Kazuaki AOKI
15:30-15:45	693	Analyzing the Impact of Low-to-Moderate Earthquake in Kon Tum, Vietnam by Time-Series Sentinel-1a	Le Minh Hang
15:45-16:00	702	Urban Floods Analysis by Using Remote Sensing Imageries in Asian: Systematic Review	Nurin Fadhlina Bt Mohd Anafi
16:00-16:15	713	The National Capabilities and Requirements of Turkey for Better Forest Fires Fighting and Prevention	Abdullah Sukkar

Session 14: Environmental Domain *(Room B1: National University of Mongolia 1st Building #Rm107+ ZOOM Meeting)*

Chairpersons: Dr. N. Enkhjargal, Mongolian Geospatial Association and Dr. Manzul Hazarika, AIT, Thailand

Time	Page	Title	Speaker
14:30-14:45	719	Using Drone-Based Three-Date Multispectral Images to Classify Invasive Alien Species with Machine Learning Algorithms	Hung Li
14:45-15:00	726	Cropland Suitability Analysis Using GIS Technique	Erdenechandmani Jargalsaikhan
15:00-15:15	735	Change Detection Using Optical Data Image for Torrential Rain Disaster in Dili, Timor-Leste	Pedro Junior Fernandes
15:15-15:30	741	Forest Fires Occurrence and Management – A Critical Review with Respect to Tamil Nadu, India	Mishra A
15:30-15:45	748	Monitoring Inland Waters of Asia Using Saral Altika Satellite Altimeter Datasets	Vaibhav Garg
15:45-16:00			
16:00-16:15			
16:15-16:30			

Day 3: Oct 5, 2022 (Wednesday)

Mongolian Time (UTC+8)	Contents
08:15 – 08:45	*Registration and Preparation - LOC*
08:45 – 10:45	**Technical Exhibition /ZOOM Webinar/ -** *Chairpersons: Dr. M. Saandari, MonMap LLC, Mr. L. Ochirkhuyag, Mongolian Geospatial Association (MGA)* • 08:45 – 09:45 Axelspace, Japan – 60 min • 09:45 – 10:45 SatSure/MonMap/ AWS – 60 min
10:45 – 11:00	*Refreshment Break*
11:00 – 13:00	**PARALLEL SESSIONS (oral presentations) Session 15-18**
13:00 – 14:00	*Lunch Break*
14:00 – 15:00	**The Awards Meeting with LOC and Award Contributors** /parallel ZOOM Meeting/ - D. Amarsaikhan
14:00 – 16:00	**SPECIAL SESSIONS** **Room 1: Satellite Program Session** (Jade Hall, Blue Sky Hotel + ZOOM Webinar) *Chairpersons: Dr. Sameer Saran, ISRO, India and Dr. Shinchi Sobue, JAXA, Japan* • *JAXA's Earth Observation Missions - Dr. Shinichi Sobue, Aerospace Exploration Agency (JAXA), Japan* • *India's Space Programme - Dr. R.P Singh, Indian Space Research Organization (ISRO), India* • *Korea Space Programme - Dr. Sun-Gu Lee, Korea Aerospace Research Institute (KARI)* • *Taiwan's Space Programs for Remote Sensing - Dr. Fuan Tsai, National Space Organisation (NSPO), Taiwan* • *Space Program of the Philippines - Dr. Gay Jane Perez, Philipines Space Agency (PhilSA)* • *Question & Answers* • *Space Programme of Thailand - Dr. Damrongrit Niammuad, Geo-Informatics and Space Technology Development Agency, Thailand* • *Singapore Earth Observations Satellite Programme - Dr. Leong Keong, KWOH, Centre for Remote Imaging Sensing and Processing. National University of Singapore, CRISP/NUS* • *Evolution of the Space Industry – A Private Sector Perspective - Dr. Abhineet Jain, Black Sky Realtime Geospatial Intelligence* • *Precision 3D from Space - Mr. Shailesh Shankar, Maxar Technologies* • *Question & Answers* **Room 2: White elephant Session** (*Topaz Hall, Blue Sky Hotel + ZOOM Meeting*) *Chairperson: Dr. Armin Gruen, Switzerland* • *Introduction of White Elephant Club* • *Thesis writing - Dr. Armin Gruen* • *Presentation techniques- Prof. Shunji Murai* • *Project proposal – Prof. Kohei Cho* • *Q&A*

16:00 – 17:00	**Awards and Closing Ceremony** (*Crystal Hall, Blue Sky Hotel + ZOOM EVENTS)*
	Award Announcements: • JSPRS Award, Japan – *Dr. Mitsu Yoshimura, CSIS, University of Tokyo* • ISRS Asian Geospatial Award 2022, India – *Dr. Sameer Saran, ISRO* • AARS Innovation Award 2022 – *Dr. Lifu Zhang, AIR-CAS* • Student Awards, Mongolia – *Academician (Sc.D) D. Amarsaikhan. IGG, MAS*
	Summary Report of the ACRS2022 - *Dr. M. Saandari, General Chair of ACRS 2022 LOC*
	Invitation to ACRS 2023 in Taipei (video)
	Closing address • *Prof. Kohei Cho, AARS* • *Dr. M. Saandari, MonMap LLC* • *Dr. D. Battogtokh, Director General, Development and Implementation of Science and Technology Policy and Innovation, Ministry of Education and Science* • *Mr. Kh. Enkhmanlai, Director General, Communication Policy Implementation Coordination Department, Ministry of Digital Development and Communication* • *Mrs. T. Otgonjargal. CEO of MGA*

Session 15: Algorithm and Image Processing *(Room D1: MonMap LLC Meeting Room + ZOOM Meeting)*

Chairpersons: Dr. B. Javzandulam, MonMap LLC and Dr. Fuan Tsai, National Space Organisation (NSPO), Taiwan

Time	Page	Title	Speaker
11:00-11:15	758	Investigation of Geo-Structure of the Khan Bogd Massive Using Optical and Microwave RS	D.Amarsaikhan
11:15-11:30	764	Object-Oriented Approach for Different Types of Building Footprints Extraction from High Resolution Satellite Imagery: A Comparative Study	Arshad Peer Mohamed
11:30-11-45	776	Object-Based Temporal Dynamic Time Warping for Cropland Classification Using Multi-Sensor Remote Sensing Data: A Comparative Analysis in Three Different Major Crop-Growing Regions	Randy Chua
11:45-12:00	785	Tin-Based Image Segmentation for Seamless Mosaicking of UAV Images	Sung-Joo Yoon
12:00-12:15	787	Cloud Detection of VIIRS DNB Using GLCM Features in East Asia	Jonggeol Park
12:15-12:30	793	Remote Sensing Techniques for 3d Building in Ulaanbaatar City	N.Enkhjargal
12:30-12:45	795	Image Quality Assessment of Spatiotemporal Image Fusion: A Case Study Approach Using Landsat-8 And Sentinel-2	Greetta Pinheiro
12:45-13:00	805	Comparative Study of Vegetation Indices for Machine Learning-Based Image Classification	Bulgan Gankhuyag
13:00-13:15	814	STUDY OF STRUCTURES OF OVOOT KHURAL COAL BEARING BASIN USING OPTICAL AND MICROWAVE REMOTE SENSING	M.Ochirbat

Session 16: Environmental Domain *(Room D2: Mongolian University of Life Sciences (MULS) + ZOOM Meeting)*

Chairpersons: Dr. B. Batbileg, MULS and Dr. N. Bayanmunkh, Mongolian Geospatial Association

Time	Page	Title	Speaker
11:00-11:15	821	Monitoring Gross Primary Production Using the Satellite Data	Delgermaa Erkhembayar
11:15-11:30	828	Development Land Cover Classification Approach Using Linear Mixing Model and Random Forest in Google Earth Engine	Davaasuren Bayarmagnai
11:30-11-45	835	Predicting Steppe Fire Using Satellite Data and Machine Learning Method	Iderbayar Shiilegbat
11:45-12:00	842	CHIRPS Satellite-Rainfall Product Representing Rainfall Trend and Variability Over Thailand	Pramet Kaewmesri

Time	Page	Title	Speaker
12:00-12:15	849	Estimating Historical Forest Aboveground Biomass in Northern Borneo Using Srtmgl1 and Airborne Lidar Data	Mui-How Phua
12:15-12:30	853	Proposal of Priority Site for Forest Restoration Through Spatial Analysis of Damaged Areas in Northern Forests Considering Soil Moisture Changes in Mongolia	Enerel Bayarmagnai
12:30-12:45	855	Estimation and Validation of Pasture Aboveground Biomass Using Sentinel-2 and ALOS Palsar (A Case Study in Bayandelger Soum, Tuv Province)	Munguntuul Ulziibaatar
12:45-13:00	863	Research of the Impact of Climate Change on Ecosystem Services by Using Geospatial Information Technology - A Case Study of the Lan-Yang River Basin	Sheng-Che Chou

Session 17: Sensors and Platforms *(Room D3: MAS Meeting Room + ZOOM Meeting)*

Chairpersons: Dr. A. Munkh-Erdene, Institute of Mathematics and Digital Technologies, MAS and Dr. B. Suvdantsetseg, MAS

Time	Page	Title	Speaker
11:00-11:15	871	A High-Definition Map Assisted Pothole Detection Method for Mobile Laser System	Yun-Chen Tiao
11:15-11:30	879	Analysis on the Theoretical Precision and Empirical Accuracy of Underwater Object-To-Image Correspondence in A Flat-Refractive Imaging System	Chun-Kai Wang
11:30-11-45	889	Methodology of Hyperspectral Imaging from Non-Areal, Multiple Point Scanning Measurements	Garid Zorigoo
11:45-12:00	895	Super-Resolution Generative Adversarial Network for Panchromatic Satellite Images of Teleos-1	Qin Zhao
12:00-12:15	899	Land Use Land Cover Patch-Wise Scene Classification with Focal Loss Optimization in Convolutional Networks Using Sentinel -2 Eurosat Dataset	Neha Kumari
12:15-12:30	908	Comparison Of Random Forest and CART Methods from Landsat-8 Imagery in Mapping Macro Nutrient Content Of Oil Palm Leaves in North Sumatra Province, Indonesia	Dhimas Wiratmoko
12:30-12:45	917	Spatial Analysis of Land Surface Temperature and Its Relationships to LULC Indices in Surigao City	Lorie Cris S. Asube
12:45-13:00	925	Artificial Intelligence-Based Assessment of Urban Green Spaces and Heat Island	Bilguuntugs.T

Session 18: Disaster Monitoring and Prevention (*Room D4: National Agency Meteorology and Environmental Monitoring (NAMEM) Meeting Room+ ZOOM Meeting*)

Chairpersons: Mr. M. Odbayar, National Remote Sensing Center of Mongolia and Mr. N. Elbegjargal, University of Wisconsin-Madison, USA

Time	Page	Title	Speaker
11:00-11:15	932	Landslides Detection Using Image Transformer of Cycle-Gan for Data Augumentation	Emiko Ariyasu
11:15-11:30	939	Measuring Rockfall Area with Seasonal NDVI	Yu-Chieh Huang
11:30-11-45	948	Monitoring Land Subsidence in Ulaanbaatar, Mongolia Based on PS-ISAR Technology	Yuxin Xie
11:45-12:00	957	Synthetic Aperture Radar Image Simulation of Collapse Building Related to Multiple Signal	Yang Yu
12:00-12:15	964	Backscattering and Interferometric Characteristics of Flood Damage in Koriyama City Caused by Typhoon Hagibis	T. Igarashi
12:15-12:30	968	Satellite Imageries and Geospatial in Handling Sinking Cities in Asian: A Systematic Review	Nur Hasnieda Zawawi
12:30-12:45	977	Quantification Of Glacier Facies and Ela Delineation in Western Himalayas Using Sentinel-1 Sar Data	Ruby Panwar
12:45-13:00	983	Determining Changes in Surface Heat, Moisture, and Vegetation by Remote Sensing	B. Batsuren
13:00-13:15	991	Application of Satellite Technology for Refinement of a Height System in Mongolia	Sodnom Enkhtuya

Additional Paper

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996	Flood Susceptibility Mapping of Urban Zaria, Nigeria	Bawa Swafiyudeen