

Monday 20 January 2020							
Time	Topic	Speaker	Organization	Time	Topic	Speaker	Organization
9:00	Registration opens			9:00	Registration opens		
Hall: Kaleva /dipoli				Hall: Palaver, Dipoli			
Opening							
09:30	Opening words	Jaan Praks					
09:40	ESA Copernicus 2.0 Satellite Missions	Simon Jutz (TBC)	ESA				
10:00	Copernicus CO2 Mission	Yasjka Meijer	ESA				
Missions I Chair: Jaan Praks				Climate Change I Chair: Kari Luojus			
10:40	SPICA satellite - opportunities for Finnish astronomy and industry	Mika Juvela	(1) University of Helsinki, (2) VTT Technical Research Centre of Finland	10:40	Observed Long Term Changes in Terrestrial Snow Cover from the ESA Snow CCI Project	Kari Luojus	Finnish Meteorological Institute
11:00	HERA and the Asteroid Prospection Explorer CubeSat	Antti Näsälä	VTT Technical Research Centre of Finland	11:00	Enhanced melt of the Arctic cryosphere observed through surface albedo changes during the last decade	Aku Riihelä	FMI
11:20	Comet Interceptor - An ESA mission to an ancient world	Tomáš Kohout	University of Helsinki; VTT Technical Research Centre of Finland	11:20	Detection of air pollutants and man-made carbon dioxide emission sources from space	Iolanda Ialongo	Finnish Meteorological Institute
11:40	Qualification the UV Fabry-Perot Interferometer Assembly for the ALTIUS Atmospheric L	Heikki Saari	VTT Microspectrometers, Millog Oy	11:40	ESA Sea Ice CCI+ - towards a 26 year time series of sea ice thickness from radar altimetry	Eero Rinne	Finnish Meteorological Institute
12:00	Lunch			12:00	Lunch		
Missions II Chair: Heikki Saari				Climate Change II Chair: Johanna Tamminen			
13:00	CME NEWS – a LEO constellation for Space Weather	Juhani Huovelin	ISAWARE, FMI, Reaktor Space Lab, University of Helsinki	13:00	Copernicus GlobLand Snow Cover Extent service for Northern Hemisphere	Sari Metsämäki	Finnish Environment Institute, Finnish Meteorological Institute
13:20	NorSat-TD A Microsatellite Technology Demonstrator	Tyler Jones	Norwegian Space Agency	13:20	Coastal downstream service for the Baltic Sea landfast ice extent and thickness	Marko Mäkinen	Finnish Meteorological Institute
13:40	Sunstorm - Safeguarding the connected world	Janne Kuhno	University of Helsinki; VTT Technical Research Centre of Finland	13:40	Satellite observation unveils the role of forest in regulating energy flux and surface temperature	Temesgen Abera	University of Helsinki
14:00	Design overview and functional test plan for Foresail-1 Cubesat	Muhammad Rizwan Mughal	Aalto University	14:00			
14:20	Coffee break			14:20	Coffee break		
Space Policy Chair: Minna Palmroth				New Space Chair: Tuomas Tikka			
15:00	Finnish Space Administration	Maija Löngqvist	Ministry of Economic Affairs and Culture	15:00	Space situational awareness	Nestori Fabritius	DA Group
15:20	Finnish Space Funding	Kimmo Kanto	Business Finland	15:20	Open Cosmos Academy Ambassador and SGAC	Hamad Siddiqi	The Arctic University of Norway
15:40	Estonian Space Policy and Program 2020-2027	Paul Liias	Ministry of Economic Affairs and Culture	15:40	New space technology for solving global challenges	Tuomas Tikka	Reaktor Space Lab
16:00	Questions and answers			16:00	CubeSats Capabilities for Earth Observation Missions	Agne Paskeviciute	ISIS - Innovative Solutions In Space
16:20							
Hall: Sief				Hall: Sief			
16:40	Poster & Cocktail			16:40	Poster & Cocktail		
	Modeling Land Use and Land Cover Change Dynamics as a result of Iron Ore Mining in Kiruna	Gitau	Taita Taveta University		Aurora Resitojet One (ARO) Plume Analysis	Swati Chandran	Aurora Propulsion Technologies
	Satellite-observed soil freeze as proxy for the end of the vegetation active period	Kristin Böttcher	SYKE, FMI, FMI, UHEL, UHEL, FMI, University of Helsinki		Artificial intelligence for forest variable estimation in Finnish boreal forest	Eelis Halme	VTT Technical Research Centre
	SMALL SATELLITES DEVELOPMENT AS PRIORITY SPACE OPTIONS FOR AFRICA IN SUPPORT OF THE 2030 AGENDA	Ndongwa Maurice Yoba	Global Centre for Compliance, Hazard Assessment and Mitigation		Computationally efficient radiative transfer emulator for satellite remote sensing of aerosols	Antti Kukkurainen	Finnish Meteorological Institute
	SMALL SATELLITES AS COST EFFECTIVE SOLUTIONS FOR EMERGING NATIONS: CHALLENGES AND OPPORTUNITIES	Eyifi Alice Sembe	Global Centre for Compliance, Hazard Assessment and Mitigation		Deployable Nose Cone for CubeSats to Extend Mission Lifetime in Low Earth Orbit	Ilkka Heikkinen	Aalto University
	IAA-GLOCECOHADIM-AFRICA LION SAT1: Prospects and benefit for Africa	Tomukum Chia	International Academy of Astronautics		Spectral transmittance characteristics of boreal and temperate forest canopies	Aarne Hovi	Aalto University
	Mechanical and Thermal Design of Nanospacecraft for a Main-Belt Voyage	Iaroslav Iakubivskyi	Tartu Observatory		APEX Visual Navigation	Olli Knuuttila	Aalto University, FMI, OHB Swiss
	Analytic Hierarchy Process for Selecting a Launch Opportunity	Andrew Paliwoda	Responsive Access		Electron precipitation from Van Allen radiation belts	Emilia Kilpua	University of Helsinki, University of Eastern Finland
	The Challenge of Batch CubeSat Testing and Qualification	Andrew Paliwoda	Responsive Access		On Atmospheric Radiative Transfer simulator development for Earth Observation	Antti Mikkonen	Finnish Meteorological Institute
	Machine learning and time-series based approach for filling large-area gaps in Landsat in	Shipeng Tang	University of Helsinki		DronePilot – Utilizing drones to support icebreaker operations in the Baltic Sea	Robin Berglund	VTT Technical Research Centre
	Wind damage risk maps for large forested areas: can ALS data help?	Ranjith Gopalakrishnan	University of Eastern Finland		An alternative communications approach for deep space missions	Janis Dalbins	University of Tartu, Tartu Observatory
	Kino-Dynamic Algorithms for satellite maneuvering around small bodies of interest	Aditya Savio Paul	University of Tartu		MiniPINS - Miniature Planetary In-situ Sensors	Maria Hietanen	(1)Finnish Meteorological Institute
	A case study in sustainable urban planning and remote sensing	Antti Kinnunen	University of Vaasa		Space Imaging Simulator for Proximity Operations	Gabriel J. Schwarzkopf	Department of Electronics and Communications
	KvarkenSpaceEco & Kvarken Ground Station Implementation	KANNAN SELVAN	University of Vaasa		Plasma Brake Experiment onboard FORESAIL-1	petri toivanen	Finnish Meteorological Institute
	CubeSat deorbiting calculations by Coulomb drag and air drag	Pyyr Peitso	Aurora Propulsion Technologies		Automatic detection of Aspen trees (Populus tremula) using Unmanned Aerial Vehicle approach	Timo Kumpula	University of Eastern Finland (UEF)
19:00	Sauna						

Tuesday 21 January 2020							
Time	Topic	Speaker	Organization	Time	Topic	Speaker	Organization
08:30	Registration opens			08:30	Registration opens		
Hall: Kaleva /dipoli				Hall: Lumituuli, Dipoli			
Session: Science Instruments				Session FOREST			
Chairs: Rami Vainio				Chairs: Matti Möttö			
09:00	Advanced Telescope for High Energy Astrophysics, Athena	Seppo Korpela	University of Helsinki, VTT	09:00	Forestry-TEP reaches global	Tuomas Häme	VTT Technical Research Centre
09:20	Optical Periscopic Imager for Comets (OPIC) for Comet Interceptor ESA F-class mission	Mihkel Pajusalu	Tartu Observatory, Univer	09:20	Burning Arctic - Satellite-Based Analysis of Forest Fires and Transport of Fire Emissions	Anu-Maija Sundström	Finnish Meteorological Institut
09:40	Spectrum Monitoring and Signal Analysis Sensor for Small Satellites	Juha Kainulainen	Harp Technologies Oy	09:40	The use of terrestrial LiDAR to investigate the effects of fragmentation and seasonality on canopy	Matheus Nunes	1. Department of Geosciences
10:00	BepiColombo / SIXS – the first year in space	Rami Vainio	[1] University of Turku, Fir	10:00	Where are the aspen? Detection of keystone tree species of boreal forests using airborne hypersp	Janne Mäyrä	Finnish Environment Institute
10:20	Coffee			10:20	Coffee		
CubeSat Missions I				EO for regulations and monitoring			
Chairs:				Chairs: Sampsa Koponen			
11:00	Project APTAS - The Arctic Student CubeSat	Theresia Hestad	Luleå University of Techno	11:00	Use of EO for environmental monitoring – Needs and perspectives from the Ministry of Environme	P. Liljanemi	Finnish Ministry of Environme
11:20	Boost your satellite mission with data compression	Benjamin Fischer	Arctic Space Technologies	11:20	Use of Remote Sensing data for the public services in Estonia.	Anu Reinart	1) University of Tartu, 2)Tallin
11:40	Status and Updates on the 3U CubeSat "MIST"	Theodor-Adrian Stana	KTH Royal Insitute of Tech	11:40	Provision of EO data for Water Framework Directive monitoring.	Jenni Attila	Finnish Environment Institute
12:00	Aalto-3 – The Current Status of the Open Source Student Satellite	Alexandros Binios	Aalto University	12:00	Land Cover Monitoring by CLMS and SYKE - products and uses	Markus Törmä	Finnish Environment Institute
12:20	Lunch			12:20	Lunch		
CubeSat Missions II				Session: Space Solutions for Business			
Chairs: Miranda Saarentaus				Chairs: Heidi Kuusniemi			
13:20	Suomi 100 space weather cubesat: the 1st year	Esa Kallio	(1) Aalto University, Scho	13:20	ESA Space Solutions	Tony Sephton	European Space Agency
13:35	Aalto-1 mission status and future prospects	Jaana Praks	Aalto University, Departm	13:45	AI - opportunities for space	tbc	Fourkind Oy
13:50	TalTech satellite project: Dawn and Dusk satellites	Rauno Gordon	Tallinn University of Techn	14:00	Space Data as a Service	Joni Norppa	Terramonitor Oy
14:05	ESTCube-2: CubeSat platform and full AOCS in one unit	Janis Dalbins	Tartu Observatory, Univer	14:15	Driving operational forest management based on dynamic data	Seppo Huurainen	Wuudis Solutions Oy
14:20	Origami Membrane Deployable Structures Integrated with Thin-Film Electric Devices	Hiraku Sakamoto	Tokyo Institute of Technol	14:30	Tactical Ice Navigation Tool	Jukka Salminen	Aker Arctic Technology Oy
14:45	Coffee			14:45	Coffee		
Future technologies				GNSS			
Chairs:				Chairs: Heidi Kuusniemi			
15:20	Large commercial space settlements are feasible	Pekka Janhunen	Finnish Meteorological Ins	15:20	High-accuracy real-time positioning and timing onboard LEO satellites for PNT from LEO and other	Tor Melgard	Fugro Norway AS
15:40	North Star mission concept	Perttu Yli-Opas	Aurora Propulsion	15:40	GNSS Related Threats to Power Grid Applications	Heidi Kuusniemi	(1) University of Helsinki, Fa
16:00	Cubesats getting ready for advanced missions	Tor-Arne Grönland	GomSpace	16:00	Resilient Timing to Critical Infrastructure Using Navigation Satellites: The GEARS Project	Martti Kirkko-Jaakkola	Finnish Geospatial Research In
16:20	Icarus: Recording the Disruption of a Near-Sun Asteroid	Tuomas Lehtinen	University of Helsinki, Finl	16:20	Role of GNSS in Enabling Autonomous Driving at the Aurora Snowbox Ecosystem	Sarang Thombre	Finnish Geospatial Research In
Hall: Sief				Hall: Sief			
17:00	Poster & Cocktail			17:00	Poster & Cocktail		
Finnish Multijunction Space Solar Cells Boosted by Dilute Nitride Subjunctions				Crop Yield Statistics from Sentinel-2			
Radiation Effects Research In Finland				Intelligent Earth monitoring using Copernicus program satellites and immune system algorithms.			
A simulation model to estimate the responsiveness of an Earth observing satellite system				Aalto-3 – Software Design for the Software-Defined Radio			
Surface of Mercury with MIXS and SIMBIO-SYS instruments on board the ESA/JAXA BepiColo				Role of spatial and spectral resolutions in forest remote sensing			
THE COPERNICUS GLOBAL LAND SERVICE LAKE ICE EXTENT PRODUCT FOR NORTHERN HEMIS				Role of spatial and spectral resolutions in forest remote sensing			
Multi-angular reflectance properties of single trees				Forest Carbon Flux and Storage Mapping Service			
Improving the interoperability of seasonal algae products derived from different satellite inst				Aalto-3 – The Telemetry, Tracking and Command Subsystem			
Physically-based interpretation of meteor phenomena				Sodankylä Geophysical Observatory – Monitoring Space Weather on the Ground			
Remote sensing of greenhouse gases at Sodankylä, Finland				Intelligent Earth monitoring using Copernicus program satellites and immune system algorithms.			
Deployment mechanism for plasma brake microtether				APEX Visual Navigation			
Relationships linking satellite-retrieved ocean color data with atmospheric components in th				Exploring methods for snow mass retrieval from Earth Observation			
Machine learning methods for environmental damage assessment from satellite imagery. a c				Sky Pollution by Large-Scale Satellite Constellations as a Problem of International Law			
Project ASTER - Attitude Stabilized free falling Experiment				REDDCopernicus - Capacity for Copernicus REDD+ and Forest Monitoring Services			
UCANfly				Optical signals of Photosynthesis			
Comparison of TROPOMI/Sentinel-5 Precursor NO2 observations with ground-based measur				Evaluation of vulnerability indicators in urban areas			
Radiation monitoring onboard CubeSats				Usage of Sentinel-1 radar data for soil moisture mapping			
Could a LEO constellation provide a solution for pervasive PNT in the future?							
Aalto-3 – The Current Status of the Open Source Student Satellite							
19:00	Sauna						

Wednesday 22 January 2020							
Time	Topic	Speaker	Organization	Time	Topic	Speaker	Organization
09:00	Registration opens			09:00	Registration opens		
	Hall: Kaleva /dipoli				Hall: Lumituuli, Dipoli		
	CubeSat Missions III				SAR Applications		
	Chairs: Rizwan Muhammad Mughal				Chairs: Penelope Kourkouli		
09:00	Kvarken Space Center and mission KvarkenSat	Kendall Rutledge	University of Vaasa, 2Novia University	09:00	Dark Vessel Detection with Small Satellite SAR Constellation	Simon Andersson	ICEYE Oy
09:20	Cubic-inch hyperspectral imager for space exploration	Roberts Trop	VTT Technical Research Centre of Finland	09:20	FLOOD MONITORING USING NEAR REAL-TIME ICEYE SAR SATELLITE DATA	Penelope Kourkouli	ICEYE Oy
09:40	Picosatellite Constellation for Impact Surveillance and Hazard	Eloy Peña Asensio	Institute of Space Sciences (IEEC-CSIC)	09:40	Arctic sea ice thickness estimation based on Sentinel-1 SAR imagery and CryoSat-2 radar altimetry	Juha Karvonen	Finnish Meteorological
10:00	From the first Slovak satellite to high energy astrophysics	Marcel Frajt	Spacemanic, Slovak Organisation for	10:00	Evaluating land fast ice ridging near Utqiagvik Alaska using TanDEM-X interferometry	Marjan Marbouti	
10:20	Coffee			10:20	Coffee		
	SATCom technologies and 5G I				Climate Change III		
	Chairs: Marko Höyhtyä				Chairs: Anu-Maija Sundström		
11:00	Space and Cyber Security in ESA	Massimo Mercati	European Space Agency	11:00	Hurricanes as seen from satellites	Svante Henriksson	Hurricane Unwinder Ltd
11:20	Beyond 5G satellite-terrestrial networks for autonomous systems: Arctic	Marko Höyhtyä	VTT	11:20	Merging regional and global AOD records from major available satellite products	Larisa Sogacheva	FMI
11:40	VTT 5GTN for Terrestrial-Satellite Network Integration Testing	Mikko Vehkaperä	VTT Technical Research Centre of Finland	11:40	Methane Fluxes at Northern Latitudes using Earth Observations	Ella Kivimäki	Finnish Meteorological
12:00	Satellite communications from mobile network	Pauls Irbins	Science center ZINOO	12:00	SAMPO: Direct Readout data for atmospheric composition - what we have now and in near future	Seppo Hassinen	FMI, NASA
12:20	Lunch			12:20	Lunch		
	SATCom technologies and 5G II				EO Data II		
	Chairs: Risto Wichmann				Chairs: Mikko Stralendorff		
13:20	Low Earth Orbit Satellite Networking in 5G Convergence and Beyond	Risto Wichman	Aalto University, Tampere University	13:20	Copernicus Finnish Ecosystem	Ali Nadir Arslan(1)	(1) Finnish Meteorological
13:40	CubeSat-based characterization of ionospheric propagation properties of W-Band	Jussi Säily	VTT MilliLab, Reaktor Space Lab	13:40	Analysis Ready Data for Finland	Mikko Strahlendorff	Finnish Meteorological
14:00	Utilizing Spatial Modulation over Satellite Communications	Mehmet Ilter	Department of Signal Processing and	14:00	Data Protection and Space - What Challenges will GDPR Face when Dealing with Space-based Data?	Heidi Kuusniemi	(1) University of Helsinki
14:20	A phased antenna ground station for 435 MHz range	Philipp Oleynik	Department of Physics and Astronomy	14:20	FPCUP end user survey for satellite data products in Finland	Mikko Moisander	FMI, SYKE
14:40	Coffee			14:40	Coffee		
	SATCom technologies and 5G III				EO Data II		
	Chairs: Jussi Säily				Chairs: Heidi Kuusniemi		
15:20	Distributed peer-to-peer satellite data relay	Laurynas Maciulis	Space Union	15:20	AI-based satellite and drone image georeferencing	Matti Anttila	Space Systems Finland
15:40	Panel discussion: low Earth orbit telecommunication constellations	Leo Nyman	Atlantisat startup (Kirsi Ekberg, Leo Nyman)	15:40	Variability of CO2 over global oceans from OCO-2	Sindu Raj Parampil	FMI
16:00	Ka-band spectrum sharing between satellite and mobile	Heikki Kokkinen	Fairspectrum Oy(1), VTT(2), Airbus(3)	16:00	Bringing satellite imagery data to global audience (Earth at your fingertips App and UrbanAI)	Olga Bodet	Zero Gravity Oy
16:20		N.N	Eriilisverkot	16:20	Exploring big Earth Observation data	Samantha Wittke	Finnish Geospatial Research
	Wrapping up						
16:50	Final Words						