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				**Climate Change I**		
	Chair: Jaan Praks				Chair: Kari Luojus		
10:40	SPICA satellite - opportunities for Finnish astronomy and industry	Mika Juvela	(1) University of Helsinki, (2) VTT T	10:40	Observed Long Term Changes in Terrestrial Snow Cover from the ESA Snow CCI Project	Kari Luojus	Finnish Meteorological Institut
11:00	HERA and the Asteroid Prospection Explorer CubeSat	Antti Näsilä	VTT Technical Research Centre of F	11:00	Enhanced melt of the Arctic cryosphere observed through surface albedo changes during the	Aku Riihelä	FMI
11:20	Comet Interceptor - An ESA mission to an ancient world	Tomáš Kohout	University of Helsinki; VTT Technic	11:20	Detection of air pollutants and man-made carbon dioxide emission sources from space	Iolanda Ialongo	Finnish Meteorological Institut
11:40	Qualification the UV Fabry-Perot Interferometer Assembly for the ALTIUS Atmospheric L	Heikki Saari	VTT Microspectrometers, Millog O	11:40	ESA Sea Ice CCI+ - towards a 26 year time series of sea ice thickness from radar altimetry	Eero Rinne	Finnish Meteorological Institut
12:00	Lunch			12:00	Lunch		
	Missions II				**Climate Change II**		
	Chair: Heikki Saari				Chair. Johanna Tamminen		
13:00	CME NEWS – a LEO constellation for Space Weather	Juhani Huovelin	ISAWARE, FMI, Reaktor Space Lab,	13:00	Copernicus GlobLand Snow Cover Extent service for Northern Hemisphere	Sari Metsämäki	Finnish Environment 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 Mäkynen	Finnish Meteorological Institut
13:40	Sunstorm - Safeguarding the connected world	Janne Kuhno	University of Helsinki; VTT Technic	13:40	Satellite observation unveils the role of forest in regulating energy flux and surface temperatu	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				**New Space**		
	Chair: Minna Palmroth				Chair: Tuomas Tikka		
15:00	Finnish Space Administration	Maija Lönqvist	Ministery of Economic Affairs and	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 Norwa
15:40	Estonian Space Policy and Program 2020-2027	Paul Liias	Ministry of Economic Affairs and C	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 S
16:20							
	Hall: Sief				Hall: Sief		
16:40	Poster & Cocktail				Poster & Cocktail		
	Modeling Land Use and Land Cover Change Dynamics as a result of Iron Ore Mining in Ki	Gitau	Taita Taveta University		Aurora Resitojet One (ARO) Plume Analysis	Swati Chandran	Aurora Propulsion Technologie
	Satellite-observed soil freeze as proxy for the end of the vegetation active period	Kristin Böttcher	SYKE, FMI, FMI, UHEL, UHEL, FMI,		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	Ndongwa Maurice Yoba	Global Centre for Compliance, Haz		Computationally efficient radiative transfer emulator for satellite remote sensing of aerosols	Antti Kukkurainen	Finnish Meteorological Institut
	SMALL SATELLITES AS COST EFFECTIVE SOLUTIONS FOR EMERGING NATIONS: CHALLENG	Eyifi Alice Sembe	Global Centre for Compliance, Haz		Deployable Nose Cone for CubeSats to Extend Mission Lifetime in Low Earth Orbit	Ilkka Heikinniemi	Aalto University
	IAA-GLOCECOHADIM-AFRICA LION SAT1: Prospects and benefit for Africca	Tomukum Chia	Internatiobnal Academy of Astrona		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 Sw
	Analytic Hierarchy Process for Selecting a Launch Opportunity	Andrew Paliwoda	Responsive Access		Electron precipitation from Van Allen radiation belts	Emilia Kilpua	University of Helsinki, Universi
	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 Institut
	Machine learning and time-series based approach for filling large-area gaps in Landsat in	Zhipeng 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 Obse
	Kino-Dynamic Algorithms for satellite maneuvering around small bodies of interest	Aditya Savio Paul	University of Tartu		MiniPINS - Miniature Planetary In-situ Sensors	Maria Hieta	(1)Finnish Meteorological Insti
	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
	KvarkenSpaceEco & Kvarken Ground Station Implementation	KANNAN SELVAN	University of Vaasa		Plasma Brake Experiment onboard FORESAIL-1	petri toivanen	Finnish Meteorological Institut
	CubeSat deorbiting calculations by Coulomb drag and air drag	Pyry Peitso	Aurora Propulsion Technologies		Automatic detection of Aspen trees (Populus tremula) using Unmanned Aerial Vehicle approa	Timo Kumpula	University of Eastern Finland (I
19:00	Sauna						

	Tuesday 21 January 2020						
Time	**Topic**	**Speaker**	**Oganization**	**Time**	**Topic**	**Speaker**	**Oganization**
08:30	Registration opens			08:30	Registration opens		
	Hall: Kaleva /dipoli				Hall: Lumituuli, Dipoli		
	Session: Science Instruments				**Session FOREST**		
	Chairs: Rami Vainio				Chairs: Matti Mõttus		
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 hyperspe	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 Technc	11:00	Use of EO for environmental monitoring – Needs and perspectives from the Ministry of Environme	P. Liljaniemi	Finnish Ministry of Environmer
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)Tallinn
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		
13:20	Suomi 100 space weather cubesat: the 1st year	Esa Kallio	(1) Aalto University, Schoc	13:20	ESA Space Solutions	Tony Sephton	European Space Agency
13:35	Aalto-1 mission status and future prospects	Jaan 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 Techr	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 Huurinainen	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 Iehtinen	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	Arto Aho	Tampere University / Op		Aalto-3 – The Structural Design	Mikko Simenius & Jauarie	Aalto University
	Radiation Effects Research in Finland	Arto Javanainen	University of Jyväskylä		Crop Yield Statistics from Sentinel-2	Maria Yli-Heikkilä	Natural Resources Institute Fir
	A simulation model to estimate the responsiveness of an Earth observing satellite system	Verneri Lauksio	None / Aalto University (M		Intelligent Earth monitoring using Copernicus program satellites and immune system algorithms.	Paweł Kisielewicz	Cracow University of Technolo
	Surface of Mercury with MIXS and SIMBIO-SYS instruments on board the ESA/JAXA BepiColor	Antti Penttilä	Department of Physics, Ur		Aalto-3 – Software Design for the Software-Defined Radio	Verneri Hirvonen	Aalto University
	THE COPERNICUS GLOBAL LAND SERVICE LAKE ICE EXTENT PRODUCT FOR NORTHERN HEMIS	Kirsikka Heinilä	1)Finnish Environment Ins		Role of spatial and spectral resolutions in forest remote sensing	Matti Mõttus	1) VTT Technical Research Cen
	Multi-angular reflectance properties of single trees	Petri Forsström	Aalto University, Universit		Forest Carbon Flux and Storage Mapping Service	Matti Mõttus	1) VTT Technical Research Cen
	Improving the interoperability of seasonal algae products derived from different satellite inst	Sakari Väkevä	Finnish Environment Instit		Aalto-3 – The Electrical Power System	Ville-Valtteri Kettunen	Aalto University
	Physically-based interpretation of meteor phenomena	Maria Gritsevich	Finnish Geospatial Resear		Aalto-3 – The Telemetry, Tracking and Command Subsystem	Juha Biström	Aalto University
	Remote sensing of greenhouse gases at Sodankylä, Finland	Rigel Kivi	(1) Finnish Meteorological		Sodankylä Geophysical Observatory – Monitoring Space Weather on the Ground	Thomas Ulich	Sodankylä Geophysical Observ
	Deployment mechanism for plasma brake microtether	Joel Tolonen	Aalto University		Intelligent Earth monitoring using Copernicus program satellites and immune system algorithms.	Paweł Kisielewicz	Cracow University of Technolo
	Relationships linking satellite-retrieved ocean color data with atmospheric components in th	Marjan Marbouti	1 Institute for Atmospheri		APEX Visual Navigation	Olli Knuuttila	Aalto University, FMI, OHB Sw
	Machine learning methods for environmental damage assessment from satellite imagery, a c	Bogdan Iancu	Åbo Akademi University		Exploring methods for snow mass retrieval from Earth Observation	Juha Lemmetyinen	Finnish MEteorological Institut
	Project ASTER - Attitude STabilized free falling ExpeRiment	Noel Janes	Luleå University of Technc		Sky Pollution by Large-Scale Satellite Constellations as a Problem of International Law	Stefan Kirchner	University of Lapland, Arctic C
	UCAnFly	Andrea	University of Cadiz		REDDCopernicus - Capacity for Copernicus REDD+ and Forest Monitoring Services	Jukka Miettinen	VTT Technical Research Centre
	Comparison of TROPOMI/Sentinel-5 Precursor NO2 observations with ground-based measur	Henrik Virta	Finnish Meteorological Ins		Optical signals of Photosynthesis	Jon Atherton	Optics of Photosynthesis Labo
	Radiation monitoring onboard CubeSats	Jan Gieseler	1 - Department of Physics				
	Could a LEO constellation provide a solution for pervasive PNT in the future?	Heidi Kuusniemi	(1) University of Helsinki,				
19:00	Sauna						

Wednesday 22 January 2020

Time	Topic	Speaker	Oganization
09:00	Registration opens		
	Hall: Kaleva /dipoli		
	CubeSat Missions III		
	Chairs: Rizwan Muhammad Mughal		
09:00	Kvarken Space Center and mission KvarkenSat	Kendall Rutledge	1University of Vaasa, 2Novia Univers
09:20	Cubic-inch hyperspectral imager for space exploration	Roberts Trops	VTT Technical Research Centre of Fir
09:40	Picosatellite Constellation for Impact Surveillance and Hazard	Eloy Peña Asensio	Institute of Space Sciences (IEEC-CSI
10:00	From the first Slovak satellite to high energy astrophysics	Marcel Frajt	Spacemanic, Slovak Organisation for
10:20	Coffee		
	SATCom technologies and 5G I		
	Chairs: Marko Höyhtyä		
11:00	Plenary Presentation	Massimo Mercati	ESA
11:20	Beyond 5G satellite-terrestrial networks for autonomous systems: Arctic	Marko Höyhtyä	VTT
11:40	VTT 5GTN for Terrestrial-Satellite Network Integration Testing	Mikko Vehkaperä	VTT Technical Research Centre of Fir
12:00	Satellite communications from mobile network	Pauls Irbins	Science center ZINOO
12:20	Lunch		
	SATCom technologies and 5G II		
	Chairs: Risto Wichmann		
13:20	Low Earth Orbit Satellite Networking in 5G Convergence and Beyond	Risto Wichman	Aalto University, Tampere University
13:40	CubeSat-based characterization of ionospheric propagation properties of W-Band	Jussi Säily	VTT MilliLab, Reaktor Space Lab
14:00	Utilizing Spatial Modulation over Satellite Communications	Mehmet Ilter	Department of Signal Processing and
14:20	A phased antenna ground station for 435 MHz range	Philipp Oleynik	Department of Physics and Astronon
14:40	Coffee		
	SATCom technologies and 5G III		
	Chairs: Jussi Säily		
15:20	Distributed peer-to-peer satellite data relay	Laurynas Maciulis	Space Union
15:40	Panel discussion: low Earth orbit telecommunication constellations	Leo Nyman	Atlantisat startup (Kirsi Ekberg, Leo N
16:00		N.N	Bittium
16:20		N.N	Erillisverkot
	Wrapping up		
16:50	Final Words		

Time	Topic	Speaker	Oganization
09:00	Registration opens		
	Hall: Lumituuli, Dipoli		
	SAR Applications		
	Chairs: Penelope Kourkouli		
09:00	Dark Vessel Detection with Small Satellite SAR Constellation	Simon Andersson	ICEYE Oy
09:20	FLOOD MONITORING USING NEAR REAL-TIME ICEYE SAR SATELLITE DATA	Penelope Kourkouli	ICEYE Oy
09:40	Arctic sea ice thickness estimation based on Sentinel-1 SAR imagery and CryoSat-2 radar altimetry	Juha Karvonen	Finnish Meteorological
10:00	Evaluating land fast ice ridging near Utqiaġvik Alaska using TanDEM-X interferometry	Marjan Marbouti	
10:20	Coffee		
	Climate Change III		
	Chairs: Anu-Maija Sundström		
11:00	Hurricanes as seen from satellites	Svante Henriksson	Hurricane Unwinder Lt
11:20	Merging regional and global AOD records from major available satellite products	Larisa Sogacheva	FMI
11:40	Methane Fluxes at Northern Latitudes using Earth Observations	Ella Kivimäki	Finnish Meteorological
12:00	SAMPO: Direct Readout data for atmospheric composition - what we have now and in near future	Seppo Hassinen	FMI, NASA
12:20	Lunch		
	EO Data II		
	Chairs: Mikko Stralendorff		
13:20	Copernicus Finnish Ecosystem	Ali Nadir Arslan(1)	(1) Finnish Meteorolog
13:40	Analysis Ready Data for Finland	Mikko Strahlendorff	Finnish Meteorological
14:00	Data Protection and Space - What Challenges will GDPR Face when Dealing with Space-based Data?	Heidi Kuusniemi	(1) University of Helsinl
14:20	FPCUP end user survey for satellite data products in Finland	Mikko Moisander	FMI, SYKE
14:40	Coffee		
	EO Data II		
	Chairs: Heidi Kuusniemi		
15:20	AI-based satellite and drone image georeferencing	Matti Anttila	Space Systems Finland
15:40	Variability of CO2 over global oceans from OCO-2	Sindu Raj Parampil	FMI
16:00	Bringing satellite imagery data to global audience (Earth at your fingertips App and UrbanAI)	Olga Bodet	Zero Gravity Oy
16:20	Exploring big Earth Observation data	Samantha Wittke	Finnish Geospatial Rese