Final programme

Tuesday 25TH am

8.30	Registration
9.30	Welcome and Introduction Organizers : X. Boulanger and L. Castanet ISAE-SUPAERO : M.-H. Baroux, Directrice Générale CNES : C. Dudal ONERA : J.-Ph. Parmantier
9.55	In memoriam of Bertram Arbesser-Rastburg *A. Martellucci, L. Castanet…*
	Keynote 1 **Chair: M. Bousquet**
10.00	An overview of ESA activities on wave propagation for space systems *A. Martellucci, N. Floury, R. Orus Perez, J. Parro (ESA)*
10.30	The trends and technologies shaping the future of satellite communications *J. B. Mariotte (SES)*
11.00	A brief overview of satcom services and their impact on propagation channel *D. Le Boulc'h (Thales Alenia Space)*
11.30	Coffee Break
	Session 1: Tropospheric Propagation – Statistical prediction methods **Chair: J. Queyrel**
11.50	Characterizing Scintillation and Rain Attenuation at Ka- and Q-Band Frequencies: Insights from the Alphasat Aldo Paraboni Experiment at Tito Scalo and Spino d'Adda *T. Miles (Politecnico di Milano), A. Comisso (Politecnico di Milano), C. Riva (Politecnico di Milano), L. Luini (Politecnico di Milano), G. Codispoti (ASI), G. Parca (ASI)*
12.10	Prediction of the Monthly Rainfall Rate and Rain Attenuation Statistics using ITU-R Models in Earth-Satellite Links *A.Kelmendi (ONERA), L. Castanet (ONERA), X. Boulanger (CNES)*
12.30	**Lunch Break**

Tuesday 25TH pm

Session 2: Tropospheric Propagation - Experiments Chairs: L. Castanet / C. Riva	
13.50	Tropospheric propagation experiments carried out at Ka and Q/V bands by CNES and ONERA *X. Boulanger (CNES), L. Castanet (ONERA), F. Rousseau (CNES), J.-P. Monvoisin (ONERA)*
14.10	Alphasat Propagation Experiment in Madrid: Ten Years of Q-band Experimental Results *J.-M. Riera (Universidad Politécnica de Madrid, UPM), D. Pimienta del Valle(UPM), G. Del Pino (UPM), G. Siles (Universidad Privada Bolilviana), A. Benarrocha (UPM)*
14.30	Alphasat Aldo Paraboni Propagation Experiment in Graz – 10 Years of Operation *M. Schmidt (Joanneum Research, JR), I. Stamenic (JR), E. Greschitz (JR)*
14.50	Propagation Research of Radio Waves in 19 GHz and 39 GHz Bands Using Alphasat Satellite at IAP Prague, Czech Republic *F. Ondrej (IAP), K. Potuznikova (IAP), A. Zikesova (IAP)*
15.10	Data processing of long term measurements on Ka band ALPHASAT bacon signal *T.-M. Tran (BME), B. Janos (BME), C.-H. Laszlo (BME)*
15.30	Ku, Ka and Q band Propagation Experiment in French Indies *J.-P. Monvoisin (ONERA), L. Castanet (ONERA), L. Féral (ONERA), X. Boulanger (CNES)*
15.50	Coffee Break
Keynote 2 chair: M. Bousquet	
16.10	New challenges in propagation modelling for ITU spectrum sharing *H. De Bailliencourt (Airbus Defense & Space)*
Session 3: Propagation in terrestrial and mobile environments Chairs: J. Israël / F. Perez Fontan	
16.40	Satcom services: performances and use cases in terrestrial mobility *S. Garcia Guillen (CNES), S. Cazalens (CNES)*
17.00	Modeling the Clutter Loss in Slant Paths *F. Perez Fontán (Universidade de Vigo), V. Pastoriza Santos (Univ. de Vigo), F. Machado Dominguez (Univ. de Vigo), T. Prechtl (Joanneum Research), P. Pechac (Czech Technical University)*
17.20	Integrating Image Segmentation and Deep Learning for Enhanced RF Propagation Modeling *J. Israël (ONERA)*
17.40	End of the 1rst day

Wednesday 26TH am

8.00	Registration
	Keynote 3 **Chair: M. Bousquet**
08.30	Aerospace outcomes of WRC23 & frequency bands with new challenges for WRC27 *A. Saidini (ANFR)*
09.00	IRIS²: 300 satellites for our European strategic autonomy *J.-P. Diris (CNES)*
09.30	Satellite communications from 5G to 6G *B. Evans (University of Surrey)*
	Session 4: Ionospheric Propagation (1/2) **Chairs: V. Fabbro / S. Trilles**
10.00	SPARROW : SPARse Radio Occultation for Wildfires monitoring *C. Allietta (ENAC), R. Douvenot (ENAC), S. Cafieri (ENAC)*
10.20	Ionospheric perturbations characterization in low-Earth radar-based space surveillance systems' measurements *D. Alexandre (ONERA), H. Labriji (ONERA)*
	Coffee Break
	Session 4: Ionospheric Propagation (2/2) **Chairs: V. Fabbro / S. Trilles**
11.20	Ionospheric Scintillation modeling for LEO satellite configuration *G. Morel (ONERA), V. Fabbro (ONERA), O. Boisot (ONERA)*
11.40	High latitude ionospheric scintillation forecasting using Deep Learning *A. Rémy (ONERA), V. Fabbro (ONERA)*
12.00	Modelling strategy of the ionospheric turbulence *L. Hecker (Thales Alenia Space), S. Trilles (Thales Alenia Space), P.L. Blelly (IRAP)*
12.20	On the use of scintillation propagation parameters in satellite navigation systems *L. Hecker (Thales Alenia Space), S. Trilles (Thales Alenia Space), V. Fabbro (ONERA)*
12.40	**Lunch Break**

Wednesday 26TH pm

	Session 5: Impact on SatCom systems and FMT **Chairs: J. Radzik /M. Schmidt**
14.00	A Test-Bed Simulator for Designing VHTS Smart Gateway Diversity Policies *J. Cano (ONERA), M. Bousquet (ISAE-SUPAER0, Retired), L. Castanet (ONERA), L. Ramos Medina (Thales Alenia Space)*
14.20	Investigating the role of rain attenuation correlation on GSO – NGSO paths for interference analysis *E. Polo (Politecnico di Milano), L. Emiliani (SES), L. Luini (Politecnico di Milano),*
14.40	Activating VHTS Fade Mitigation Techniques Leveraging LSTMs Classifiers *J. Cano (ONERA), J. Israël (ONERA)*
15.00	Simulating the Increase in Data Recovery for Earth Observation Systems with a Redundant Receiver *L. Quibus (CReC Saint-Cyr),* M. Younes *(IETR), E. Plouhinec (INSA Rennes)*
	Session 6: Clear air effects in the troposphere **Chairs: R. Douvenot / V. Darchy**
15.20	Using NWPs and the PWE to predict EM propagation properties in the atmosphere *N. Wellander (FOI), F. Lauren (FOI), L. Norin (FOI)*
15.40	Electromagnetic Waves Propagation Through a Realistic Turbulent Marine Layer *R. Douvenot (ENAC), V. Darchy (ENAC), S. Jamme (ISAE-SUPAERO), H. Galiègue (ENAC)*
16.00	Coffee Break
	Session 7: Tropospheric Propagation - Channel modelling **Chairs: X. Boulanger / A. Martellucci**
16.20	Characterization and Modelling of the Large-Scale Correlation of the Propagation Channel at Ka and Q/V Bands *C. Riva (Politecnico di Milano), L. Luini (Politecnico di Milano), J. Queyrel (ONERA), J.-M. Riera (Universidad Politécnica de Madrid), M. Rytir (FFI), L. Castanet (ONERA)*
16.40	LaScaMod Part II: Channel modeling *J. Queyrel (ONERA), X. Boulanger (CNES), L. Castanet (ONERA), M. Rytir (FFI), L. Luini (Politecnico di Milano), C. Riva (Politecnico di Milano)*
17.00	Extending the Synthetic Storm Technique to the transverse direction *F. Perez Fontán (Universidade de Vigo), V. Pastoriza Santos (Universidade de Vigo), F. Machado Dominguez (Universidade de Vigo), A. De (La Sapienza University)*
17.20	SISTAR-V4: SImulator of the Space-Time behavior of the total Attenuation for Radio-communications applications *J. Queyrel (ONERA), X. Boulanger (CNES), L. Castanet (ONERA), L. Féral (ONERA)*
17.40	End of 2nd day sessions
20.00	Social Dinner at Les caves de la Maréchale

Thursday 27TH

8.00	Registration
	Keynote 4 **Chair: M. Bousquet**
08.30	EUMETSAT Earth Observation systems for meteorological applications and associated needs in Propagation *F. Jaillot (EUMETSAT)*
09.00	ITU-R SG3 activity and needs for propagation studies to prepare WRC27 agenda items *D. Botha (ITU-R)*
09.30	Vision & roadmap toward space communications in the 6G era *S. Chatzinotas (University of Luxemburg)*
10.00	Perspectives in RF satellite communications – a view from a commercial operator *A. Barthere (EUTELSAT)*
10.30	Coffee Break
	Session 8: Measurement techniques, data processing & characterization **Chairs: L. Feral / J.-M. Riera**
10.50	HD Rain Technology for Rain Measurement Using Earth-Space Microwave Links in the Ku-Band : An Ivorian and French example *M. Turko (HD rain), J. Brajon (HD rain), F. Mercier (HD rain), M. Gosset (IRD), A. Kodji (Université Félix Houphouët Boigny)*
11.10	Improving the Dynamic Range of Beacon Receivers *E. Suquet (Durham University), L. Castanet (ONERA), L. Féral (ONERA), H. Bourgoin (ONERA), X. Boulanger (CNES)*
11.30	A Comparison Between MWR and NWP Data Employed for the Calibration of the Received Power in the Alphasat Propagation Campaign *A. Comisso (Politecnico di Milano)*
11.50	Influence of Rain DSD Fluctuations on Rain Attenuation in the EHF Band *J.-M. Riera (Universidad Politécnica de Madrid), J. Romero Vilar (Universidad Politécnica de Madrid) D. Pimienta del Valle (Universidad Politécnica de Madrid), A. Benarroch (Universidad Politécnica de Madrid)*
12.10	Characterization of rain attenuation for millimeter wavelengths for realistic non-rotational symmetric drop shapes *F. Teschl (TU Graz), A. Sevic (TU Grazraz), M. Thurai-Rajasingam (EDU), M. Schönhuber (Joanneum Research)*
12.30	**Conclusion and open discussion** **Moderators: L. Castanet (ONERA), X. Boulanger (CNES)**
13.00	Closure of the Workshop