



ITU Centres of Excellence Network for Europe Region

A.S. Popov Odessa National Academy of Telecommunications (ONAT)

FACE-TO-FACE Training Course on

**THE USE OF ADAPTIVE TECHNOLOGIES TO TRANSMIT VIDEO
OVER RADIO CHANNELS**

**Odessa, Ukraine
November 7, 2019**

COURSE OUTLINE

COURSE DESCRIPTION

Title	The use of adaptive technologies to transmit video over radio channels
Objectives	This training aims to introduce participants to modern methods of telecommunication network designing and the principles of it's automation. It is focused on the aspects of broadband networks designing. The training will allow participants to contribute personally to the implementation and development of telecommunication networks in future.
Dates	November 7, 2019
Duration	1 day
Registration deadline	November 7, 2019
Training fees	Free-to-participate
Course code	19WS24314EUR-E

LEARNING OUTCOMES

Upon completion of this training, participants will have understanding of:

- Methods of analyzing the impact of uneven distribution of users in the cells on the network bandwidth for reconfiguring devices in the network and increasing bandwidth in general;
- Functional model of adaptive video transmission system in radiocommunication channels;
- Technology of creation, preparation, reception / transmission of video information for civil purposes.

TARGET POPULATION

This training is targeted at designers of digital broadcasting and wireless telecommunications systems in a variety of environments. The training will be also useful for specialists engaged in: provision of high-quality communication in urban terrain and high-quality color reproduction in various shooting and playback conditions; designing antenna systems and improving them by applying adaptive technologies; acoustic design of premises and provision of spatial sound in broadcasting systems; introduction of new systems of visual information compression. Also, the training may be of interest for the staff of organizations, enterprises and institutions dealing with the development of adaptive wireless communication systems, transmission of video content and information.

TUTORS/INSTRUCTORS

NAME OF TUTOR(S)/INSTRUCTOR(S)	CONTACT DETAILS
Mr. Vladimir Pilyavsky Senior Lecturer, Department of Television and Radio Broadcasting; Senior Researcher of the Scientific and Research Center for Telecommunication Systems and Communication Networks; responsible for educational and methodical work of the Educational and Scientific Institute of Radio, Television and Information Security, A.S. Popov ONAT, Ph.D.	Email: v.pilyavskiy@ukr.net
Ms. Alexandra Koltsova Associate Professor, Department of Television and Radio Broadcasting, A.S. Popov ONAT, Ph.D.	Email: tango@i.ua
Mr. Nikolay Patlayenko Lecturer, Department of Television and Radio Broadcasting; Researcher, Scientific and Research Center for Telecommunication Systems and Communication Networks, A.S. Popov ONAT	Email: nick_msa@ukr.net
Mr. Sergey Siden Specialist, Department of Technical Electrodynamics and Radio Communication Systems; Researcher of the Scientific and Research Center for Telecommunication Systems and Communication Networks, A.S. Popov ONAT	Email: ssiden1@live.com

EVALUATION

Besides the final assignment score, participants will be evaluated according to their substantive posts on the discussion forum, active participation in sessions and other course activities, reflecting both the quantity and quality of time spent on the training.

TRAINING SCHEDULE AND CONTENTS / AGENDA

Agenda (for face-to-face courses)

Day, Date	Time	Topics / Events
07/11/2019	8:00 – 09:00	Registration of participants
	9:00 – 09:30	Greeting words
	09:30 – 10:00	Lecture 1: The problem of introducing and implementing an adaptive approach to the future progress of video technologies
	10:00 – 10:30	Lecture 2: Adaptive technologies in audiovisual systems of different levels
	10:30 – 11:00	Lecture 3: The use of adaptive technologies in the end devices of video paths
	11:00 – 11:30	Coffee break
	11:30 – 12:00	Lecture 4: Audiovisual Objects and Metadata
	12:00 – 12:30	Lecture 5: Adaptive Antenna Technologies for Wireless Communications Systems
	12:30 – 13:30	Lunch
	13:30 – 14:00	Lecture 6: LoRaWAN Range Groth Methods
	14:00 – 14:30	Lecture 7: Ways to implement automatic correction systems for limiting image clarity in conventional and immersion systems due to the limited depth of field of the optical apparatus
	14:30 – 15:00	Lecture 8: Analysis of the use of graphs in the grid coding of 3D objects
	15:00 – 15:30	Lecture 9: Microphone systems for recording surround sound
	15:30 – 16:00	Final test
	16:00 – 16:30	Coffee break
	16:30 – 17:00	Closing ceremony

METHODOLOGY

The training will include Instructor-led presentations, case studies, group exercises and assignments.

All announcements for all events (materials, quizzes and forums) will be given several days prior to the event by the training tutor.

COURSE COORDINATION

Course coordinator: Name: <i>Mr. Vladyslav Kumysh</i> Email address: rdd@onat.edu.ua	ITU coordinator: Name: <i>Mr. Jaroslav Ponder</i> Email address: EURegion@itu.int
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REGISTRATION AND PAYMENT

ITU Academy portal account

Registration should be made online at the ITU Academy portal.

To be able to register for the course you **MUST** first create an account in the ITU Academy portal at the following address:

https://academy.itu.int/index.php?option=com_hikashop&view=user&layout=form&Itemid=559&lang=en

Training registration

When you have an existing account or created a new account, you can register for the course online at the following link: <https://academy.itu.int/training-courses/full-catalogue/use-adaptive-technologies-transmit-video-over-radio-channels>.

You can also register by finding your desired course in our training catalogue https://academy.itu.int/index.php?option=com_joomla&view=coursescatalogdomain&Itemid=478&lang=en