NIT's Training Plan for 2019 in ITU CoE Project

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NITs ITU CoE priority areas

1. Internet Governance
2. Wireless & Fixed Broadband

ITU CoE Training Plan for 2019

Five e-learning courses:

- 4-11 March 2019
  Strategic Aspects for Internet Governance and Innovations
- 8-15 April 2019
  Wireless Access Technologies to Internet Network
- 20-27 May 2019
  Legal and regulatory barriers to the introduction of cloud services in the EU
- 26 August - 2 September 2019
  Security and QoS in Internet Network
- 30 September - 7 October 2019
  Technical, business and regulatory aspects of 5G Networks

One face-to-face workshop:

- 24-25 October 2019
  QoS Technologies and Regulation for Fixed and Mobile

Strategic Aspects for Internet Governance and Innovations

- **Description:** The course aims at presenting the current process of innovations in Internet from strategic, political, technological and business perspective of view.

  The course will cover 10 key topics: (1) Convergence in Telecommunications toward Internet, (2) Broadband Strategies and Innovations, (3) Internet Standardization and Policy, (4) Innovation management in ICT, (5) Google model vs. Apple model, (6) Mobile and Internet telephony, (7) IPTV innovations, (8) Innovative services and applications, (9) Network neutrality, (10) Management and regulation of Internet

- **Audience:** The course is addressed to corporate executives and managers, policy makers, regulators, i.e. middle-level managers, administrators, officials and engineers dealing with planning, developing, implementing and managing current and future telecom networks.

- **Date:** 4-11 March 2019
- **Trainer:** Prof. Dr Toni Janevski
- **Form:** e-learning
- **Training fees:** 150 USD

Wireless Access Technologies to Internet Network

- **Description:** The course aims at presenting the key aspects of the current most important wireless access technologies to this Internet world.

  The course will cover 10 key topics: (1) Wireless and Mobile Internet fundamentals, (2) 4G access technologies by 3GPP: LTE/LTE-Advanced, (3) Evolved Packet Core (EPC) for mobile Internet network, (4) 4G access technologies by IEEE: Mobile WiMAX, (5) WiFi access technologies: IEEE 802.11n/ac/ad, (6) QoS in wireless and mobile networks, (7) 4G mobile VoIP and mobile IPTV, (8) OTT (Over-The-Top) broadband Internet services in wireless and mobile networks, (9) QoS assesment and QoS parameters for mobile services, (10) Regulatory and business aspects for wireless and mobile brodband access to Internet

- **Audience:** The course is addressed to corporate executives and managers, policy makers, regulators, i.e. middle-level managers, administrators, officials and engineers dealing with planning, developing, implementing and managing current and future telecom networks.

- **Date:** 4-11 March 2019
- **Trainer:** Prof. Dr Toni Janevski
- **Form:** e-learning
- **Training fees:** 150 USD

Legal and regulatory barriers to the introduction of cloud services in the EU

- **Description:** The subject of this course is to discuss, from a practical point of view, the legal and regulatory barriers to the development of cloud services.

  The course will cover 10 key topics: (1) Cloud computing – phenomenon, (2) Sources of law relating to cloud computing, (3) The role of standardization in the development and provision of security measures aimed at protecting services offered in the cloud, (4) Different types of information as the subject matter of services delivered in the cloud, (5) The role of participants in cloud computing contracts and its legal aspects, (6) Legal and regulatory burdens related to the provision of services in the cloud, (7) Auditing the cloud – the aim, scope, results and benefits of an audit, (8) Enforcement of contracts for the provision of services in the cloud, (9) Access to cloud services and access barriers , (10) Application of cloud services to the local and state government

- **Audience:** The course is in particular addressed to: members of IT teams, sales and legal departments considering the procurement of cloud solutions, regulators, (in house) lawyers and anyone interested in cloud services.
- **Date:** 20-27 May 2019
- **Trainer:** Dr Andrzej Krasuski
- **Form:** e-learning
- **Training fees:** 150 USD

Security and QoS in Internet Network

- **Description:** This course will focus on Security and Quality of Service (QoS) in Internet network from technology, regulation and business aspects.

  The course will cover 10 key topics: (1) Internet fundamentals, (2) Internet security by IETF, (3) ITU's security architectures providing end-to-end communications, (4) Cybersecurity, (5) Cloud coumputing and Internet of Things (IoT) security, (6) Internet QoS, (7) QoS parameters, (8) QoS for data and mobile broadband services, (9) Network neutrality and Internet KPIs measurements, (10) ITU guidelines for QoS regulation.

- **Audience:** This course is targeted at managers, engineers and employees from regulators, government organisations, telecommunication companies and academia, who are interested in understanding, implementation and regulation of Security and QoS in Internet Network, including technologies, standardization, regulation and content. Other institutions and individuals that are dedicated in building their capacity related to Security and QoS in Internet Network are also welcome to participate.

- **Date:** 26 August – 2 September 2019
- **Trainer:** Prof. Dr Toni Janevski
- **Form:** e-learning
- **Training fees:** 150 USD

Technical, Business and Regulatory Aspects of 5G Networks

- **Description:** This course will focus on technical, business and regulatory aspects of the 5G mobile networks.

  The course will cover 10 key topics: (1) Mobile broadband evolution, (2) LTE-Advanced-Pro: transition from 4G toward 5G mobile networks, (3) 5G network architecture: network slicing, (4) 5G New Radio access, (5) 5G Next Generation core network, (6) 5G services: mobile ultra-broadband and ultra-reliable low latency services, (7) Massive Internet of Things (IoT) and IPv6 in 5G, (8) 5G Quality of Service (QoS), (9) Business aspects of 5G networks and services, (10) 5G/IMT spectrum management and regulation.

- **Audience:** This course is targeted at managers, engineers and employees from regulators, government organisations, telecommunication companies and academia, who are interested in understanding, implementation and regulation of technical, business and regulatory aspects of 5G network, including technologies, standardization, regulation and content. Other institutions and individuals that are dedicated in building their capacity related to technical, business and regulatory aspects of 5G network are also welcome to participate.
- **Date:** 30 September – 7 October 2019
- **Trainer:** Prof. Dr Toni Janevski
- **Form:** e-learning
- **Training fees:** 150 USD

QoS Technologies and Regulation for Fixed and Mobile Networks

- **Description:** This course will focus on technical, business and regulatory aspects of QoS for Fixed and Mobile Networks. It includes QoS (Quality of Service) and QoE (Quality of Experience) fundamentals by ITU, as well as traffic and QoS management in Internet and IP networks. Further, it includes QoS for fixed ultra-broadband access, including QoS solutions in metallic and optical networks, carrier grade Ethernet QoS, as well as end-to-end QoS. The course also covers QoS for mobile ultra-broadband access, including 4G and 5G mobile technologies and their QoS capabilities and approaches. The course covers QoS-enabled services provisioning, including QoS and QoE for VoIP, video and IPTV services, as well as QoS for Internet data services (i.e., Over-The-Top services). The course includes interconnection and its QoS aspects. Further, it covers generic and specific QoS parameters, KPIs (Key Performance Indicators) and their measurements. The course also covers network neutrality and its regulation. The course includes QoS regulatory framework based on technical, business/economic and regulatory principles of QoS for services over fixed and mobile networks.

- **Audience:** This course is targeted at managers, engineers and employees from regulators, government organisations, telecommunication companies and academia, who are interested in understanding, implementation and regulation of QoS for Fixed and Mobile Networks, including technologies, standardization, and regulation. Other institutions and individuals that are dedicated in building their capacity related to QoS Technologies and Regulation for Fixed and Mobile Networks are also welcome to participate.

- **Date:** 24-25 October 2019
- **Trainer:** Prof. Dr Toni Janevski
- **Form:** face-to-face
- **Training fees:** 500 USD

Information about the trainers

Prof. Toni Janevski

Dr. Toni Janevski is a Full Professor in Telecommunications at the Faculty of Electrical Engineering and Information Technologies, Ss. Cyril and Methodius University in Skopje, Macedonia.

He received his Dipl. Ing., M.Sc. and Ph.D. degrees in electrical engineering from the Faculty of Electrical Engineering and Information Technologies, Ss. Cyril and Methodius University in Skopje, in 1996, 1999 and 2001, respectively.

In the past, during 1996-1999 he has worked at the Macedonian GSM 900 mobile operator Mobimak (today T-Mobile, Macedonia) on the cell planning and dimensioning of cellular network, as well as traffic and performance analyses.

From 1999 he is with Faculty of Electrical Engineering and Information Technologies in Skopje.
In 2001 he has conducted research in optical communication at IBM T. J. Watson Research Center, New York. From May 2005 until October 2008 he was member of the Commission of the Agency for Electronic Communications (AEC) of Republic of Macedonia.

He is the author of the books titled “Traffic Analysis and Design of Wireless IP Networks”, which is published in 2003 by Artech House Inc, Boston, USA and „Internet Technologies for Fixed and Mobile Networks”, Artech House, USA, November 2015.

He has published more than 100 scientific papers.

He lectured and tutored ITU (International Telecommunication Union) workshops and elearning courses on: WiMAX, Broadband Communications and Access Networks, HSPA and LTE: towards the Next Generation of Mobile Networks, Emerging Information and Communication Technologies, Next Generation Networks, The Networks of The Future, technical Aspects of LTE Systems Implementation.

His interests include Internet Technologies, Mobile, Wireless and Multimedia networks, Information Technology, Traffic Theory, Quality of Service, as well as Dimensioning, Planning and Optimization of Telecommunication Networks.

He is a Senior Member of IEEE.

Information about the trainers

Andrzej Krasuski PhD, Legal advisor

Andrzej Krasuski holds a PhD degree in law and is a legal counsel with twenty years of experience. He specializes in regulations referring to the telecommunications market, and in particular in telecommunications law, media law and personal data protection law. In his current work, he advises on complex matters regarding regulations on the telecommunications market (i.e. the imposition, change and lifting of regulatory obligations on specific telecommunications markets), co-operation between telecommunications companies, management of scarce resources, protection of data under telecommunications secrecy rules.

Another area of Andrzej Krasuski's specialization is personal data protection and outsourcing. Andrzej's experience includes, among other things, the optimization of data flow structures from a data protection point of view, single data protection verifications as well as complex and continuing compliance audits, legal assistance in preparation of documents evidencing the processing of data, and providing security for processed data. In addition, he has extensive experience in a broad range of aspects regarding international data transfers, including transfers beyond the European Economic Area. He has advised on various models of co-operation on the market, where personal data plays a key role. In addition, he has advised many clients on data protection in complex regulatory proceedings. He has experience in the implementation of SOX regulations and has advised on data protection aspects in FCPA proceedings.

In September 2015, the fourth edition of the Commentary to the Telecommunications Law in Poland, the author of which is Andrzej Krasuski, was published by Wolters Kluwer. He is the author of many other books and scientific publications on telecommunications, outsourcing and data protection subject, including inter alia: Umowa o świadczenie usług telekomunikacyjnych (Agreement for the provision of telecommunications services) (LexisNexis 2005), Outsourcing danych osobowych w działalności przedsiębiorstw (Personal data outsourcing in business operations) (LexisNexis 2010), Dane osobowe w obrocie tradycyjnym i elektronicznym. Praktyczne problemy (Personal data in traditional and electronic trading. Practical problems) (WoltersKluwer 2012).

He has extensive experience in proceedings before the President of the Office of Electronic Communications in Poland, Inspector General for Personal Data Protection and the President of the Office of Competition and Consumer Protection as well as the European Commission. Andrzej Krasuski has extensive experience in proceedings before administrative courts and universal courts on matters related to telecommunications activity and data protection matters.

Andrzej Krasuski was a partner in international law firms, heading for many years telecommunications and data protection practices. He combines his law practice with lecturing activity, co-operating inter alia with the National Institute of Telecommunications. He has been praised for many years in international rankings as one of the leading lawyers specializing in telecommunications law, media law and personal data protection law.

Thank you for your attention!